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OBSTETRICAL TRANSACTIONS.

VOL. XXIV.

CHARING CROSS HOSPITAL COLLEGE OF MEDICINE
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TRANSACTIONS

OF THE

OBSTETRICAL SOCIETY

OF

LONDON.

VOL. XXIV.

FOR THE YEAR 1882.

WITH A LIST OF OFFICERS, FELLOWS, ETC.

LONDON:
LONGMANS, GREEN, AND CO.
1883.

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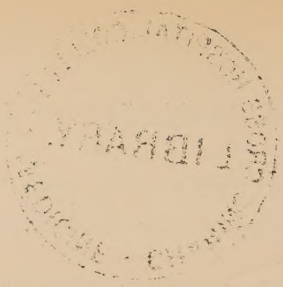

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Salzmann, Frederick William	Brighton.
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Wilson, Robert James, F.R.C.P. Ed.	St. Leonard's.
Jackson, Edward, M.B.	Newcastle-on-Tyne.
Burd, Edward, M.D., C.M.	Shrewsbury.
Murphy, James, M.D.	Sunderland.
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Harris, William John	Worthing.

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HONORARY FELLOWS.

BRITISH SUBJECTS.

Elected

1862 DUNCAN, JAMES MATTHEWS, M.D., A.M., LL.D., F.R.S.Ed., Physician-Accoucheur to, and Lecturer on Midwifery and Diseases of Women and Children at, St. Bartholomew's Hospital; 71, Brook street, Grosvenor square, W. *Council*, 1878-80. *Pres.* 1881-82.

1870 FARRE, ARTHUR, M.D., F.R.S. (HON. PRES.), Physician-Accoucheur to H.R.H. the Princess of Wales; 18, Albert Mansions, Victoria street, Westminster.

1871 KEILLER, ALEXANDER, M.D., F.R.S. Ed., Physician to the Royal Maternity Hospital, Lecturer on Midwifery and Diseases of Women and Children at Surgeons' Hall, Edinburgh; 21, Queen Street, Edinburgh.

1871 KIDD, GEORGE H., M.D., F.R.C.S.I., Obstetrical Surgeon to the Coombe Lying-in Hospital, and Examiner in Midwifery at the Queen's University and Royal College of Surgeons of Ireland; 30, Merrion square south, Dublin.

Elected

1870 West, Charles, M.D., F.R.C.P., Corresponding Member of the Academy of Medicine of Paris; 29, Promenade des Anglais, Nice, Alpes Maritimes, France. *Pres.* 1877-8.

FOREIGN SUBJECTS.

1872 Barker, Fordyce, M.D., Professor of Clinical Midwifery and Diseases of Women at the Bellevue Hospital Medical College, and Obstetric Physician to the Bellevue Hospital; Consulting Physician to the New York State Woman's Hospital, &c.; 85, Madison avenue, New York.

1863 Braun, Carl, M.D., Professor of Midwifery, Vienna.

1875 Courty, Amedée, M.D., Clinical Professor at the Faculty of Medicine of Montpellier.

1863 Depaul, Jean Anne Henri, M.D., Professor of Clinical Midwifery, 53, Rue de Varennes, Paris.

1863 Faye, F. C., M.D., Professor of Midwifery in the University of Christiania.

1864 Hecker, C., Von, M.D., Munich.

1866 Hugenberger, Theodor, M.D., à la Maternité et aux Enfants Trouvés Hôpital des Accouchements, Moscow.

1866 Lazarewitch, J., M.D., Kharkoff, Russia.

1864 Pajot, Ch. M.D., Professor of Midwifery to the Faculty of Medicine, Paris.

1862 Scanzoni, F. W. von, M.D., Professor of Midwifery Würzburg.

1864 Sims, J. Marion, M.D., late Surgeon to the Women's Hospital; 267, Madison avenue, New York.

1877 Stoltz, Professor, M.D. Nancy.

1866 Thomas, Abraham Everard Simon, M.D., Leyden.

Elected

1872 THOMAS, T. GAILLARD, M.D., Professor of Obstetrics in the College of Physicians and Surgeons; 296, Fifth avenue, New York.

1862 VIRCHOW, RUDOLF, M.D., Professor of Pathological Anatomy in the University of Berlin.

CORRESPONDING FELLOWS.

1873 MARTIN, A. E., M.D., Berlin.

1876 BUDIN, P., M.D., 22, Rue de l'Odéon, Paris.

1876 CHADWICK, JAMES R., M.A., M.D., Physician for Diseases of Women, Boston City Hospital; Clarendon street, Boston, Massachusetts, U.S.

1877 GOODELL, WILLIAM, A.M., M.D., Professor of Clinical Gynæcology in the University of Pennsylvania; Philadelphia, Pennsylvania.

1876 LUSK, WILLIAM J., M.D., Professor of Obstetrics, Bellevue Hospital Medical College; New York.

1876 PREVÔT, OSCAR, M.D., Moscow.

1877 STORER, HORATIO, M.D., Boston, Massachusetts, U.S.A.

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ORDINARY FELLOWS.

JANUARY, 1883.

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The letters O.F. are prefixed to the names of the "Original Fellows" of the Society.

Elected

1879 ADDIS, PHILIP, L.R.C.P. Ed., Iver, Bucks.

1859 ALDERSEY, William Hugh, M.B. Lond., F.R.C.S., 7, St. James' Road, Surbiton.

1871 ALDERSON, FREDERICK H., M.D., Southerton House, Glenthorne road, Hammersmith, W.

1878 ALDRED, HENRY ALLEN, M.D., 4, Westbourne park, W.

1878 ALFORD, FREDERICK STEPHEN, 61, Haverstock hill, N.W.

1873 ALLEN, HENRY MARCUS, F.R.C.P. Ed., 20, Regency square, Brighton.

1859 AMSDEN, GEORGE JOHN, M.D., 28, North Villas, Camden Square, N.W.

1878 ANDERSON, IZETT WILLIAM, M.D., 95, Duke street, Kingston, Jamaica. *Hon. Loc. Sec.*

1875 ANDERSON, JOHN FORD, M.D., C.M., 28, Buckland crescent Belsize park, N.W. *Council*, 1882.

1866 ANDREWS, HENRY CHARLES, M.D., 1, Oakley square, N.W. *Council*, 1882-3.

1859 ANDREWS, JAMES, M.D., Everleigh, Green hill, Hampstead, N.W. *Council*, 1881.

1870 APPLETON, ROBERT CARLISLE, The Bar House, Beverley.

Elected

1859 Archer, John, F.R.C.S., 9, Carpenter road, Edgbaston, Birmingham.

1871 Argles, Frank, L.R.C.P. Ed., Hermon Lodge, Wanstead, Essex, N.E.

1861 Armstrong, John, M.D., Green street green, Dartford, Kent.

O.F. Aveling, James H., M.D., Physician to the Chelsea Hospital for Women; 1, Upper Wimpole Street, W. *Council*, 1865-66, 1872. *Hon. Sec.* 1873. *Hon. Lib.* 1874-6. *Vice-Pres.* 1877-8.

1872 Ayling, Arthur H. W., 94a, Great Portland street, W.

1859 Ayling, William Henry, L.R.C.P. Ed., 103, Great Portland street, W.

1880 Bailey, Francis James, 51, Grove Street, Liverpool.

1873 Bailey, James Johnson, M.D., L.R.C.P. Ed., Hill Crest, Marple, Cheshire.

1877 Baker, Albert de Winter, 2, Lawn terrace, Dawlish, Devon.

1876 Baker, John Penning, 6, York place, Portman square, W.

1880 Balls-Headley, Walter, M.D., 190, Collins street east, Melbourne, Victoria.

1869 Bantock, George Granville, M.D., Surgeon to the Samaritan Free Hospital; 12, Granville place, Portman square, W. *Council*, 1874-6.

O.F. Barnes, Robert, M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, St. George's Hospital; 15, Harley street, Cavendish square, W. *Vice-Pres.* 1859-60. *Council*, 1861-62, 1867. *Treas.* 1863-64. *Pres.* 1865-66. *Trustee.*

1875 Barnes, R. S. Fancourt, M.D., Physician to the British Lying-in Hospital; Assistant Obstetric Physician to the Great Northern Hospital; Physician to the Chelsea Hospital for Women; Physician to the Royal Maternity Charity; 7, Queen Anne street, Cavendish square, W. *Council*, 1879-81.

Elected

1861* Bartrum, John S., F.R.C.S., Surgeon to the Bath General Hospital; 13, Gay street, Bath. *Hon. Loc. Sec. Council*, 1877-9.

1866 Bassett, John, M.D., Professor of Midwifery at the Queen's College, Birmingham; 144, Hockley Hill, Birmingham. *Council*, 1874-6. *Vice.-Pres.* 1880-2.

1873 Bate, George Paddock, M.D., L.R.C.P. Ed., 412, Bethna Green road, E; and 2, Northumberland Houses, King Edward road, Hackney. *Council*, 1882-3.

1867 Batten, Rayner W., M.D., Physician to the Gloucester General Infirmary; 1, Brunswick square, Gloucester. *Hon. Loc. Sec.*

1871 Beach, Fletcher, M.B., Darenth Asylum, Dartford, Kent.

1871 Beadles, Arthur, Park House, 11, Park road terrace, Forest hill, S.E.

1866 Belcher, Henry, M.D., L.R.C.P. Ed.; 12, Pavilion parade, Brighton.

1871 Bell, Robert, M.D. Glasg., 29, Lynedoch street, Glasgow.

1880 Benington, Robert Crewdson, Rosebank, Copleston road, East Dulwich.

1873* Bennet, James Henry, M.D., The Ferns, Weybridge, and Mentone. *Council*, 1881-3.

O.F. Berry, Samuel, F.R.C.S., Consulting Surgeon-Accoucheur to the Queen's Hospital, and Professor of Midwifery and the Diseases of Women and Children in the Queen's College; 4, Cavendish gardens, Cavendish road, Clapham common, S.W. *Vice-Pres.* 1859. *Hon. Loc. Sec.*

1879 Biggs, J. M., 6, Sunnyside villas, Child's hill, Hendon, N.W.

1878 Bindon, Wm. John Vereker, M.D., D.Sc., F.R.C.S. Ed., Appin, West end lane, West Hampstead, N.W.

1868 Black, James Watt, M.D., Obstetric Physician to the Charing Cross Hospital; 15, Clarges street, Piccadilly, W. *Council*, 1872-4.

Elected

1880 Black, Robert Francis, L.R.C.P. Ed., Examiner in Midwifery, Trinidad Medical Board; 4, Chacon street, Port of Spain, Trinidad.

1861* Blake, Thomas William, Hurstbourne, Bournemouth, Hants.

1872 Bland, George, Surgeon to the Macclesfield Infirmary; Park Green, Macclesfield.

1866 Blease, Thomas, Clairville, Altrincham, Cheshire.

1882 Blott, Herbert, 38, Osnaburgh street, N.W.

1882 Bonsall, George R. Edleston, L.R.C.P. Ed., Alexandra Villa, Elthorne road, Hornsey rise, N.

1872 Bosworth, John Routledge, Sutton, Surrey.

1866 Boulton, Percy, M.D., Physician to the Samaritan Free Hospital; Obstetric Physician to Out-Patients, Queen Charlotte's Lying-in Hospital; 6, Seymour street, Portman square, W. *Council*, 1878-80.

1877 Bowkett, Thomas Edward, 145, East India Road, Poplar, E.

1869 Boyd, Herbert, Surgeon-Major, 14th Sikhs [agents, Henry S. King and Co., 45, Pall Mall].

1877 Bradley, Michael McWilliams, M.B., Jarrow-on-Tyne.

1873 Braithwaite, James, M.D., Lecturer on Midwifery and Diseases of Women and Children at the Leeds School of Medicine; Assistant Surgeon to the Leeds Hospital for Women and Children; 16, Clarendon road, Little Woodhouse, Leeds. *Vice-Pres.* 1877-9. *Hon. Loc. Sec.*

1862 Braithwaite, William, M.D., late Lecturer on Midwifery, Leeds School of Medicine; Clarendon House, 20, Clarendon road, Leeds. *Council*, 1869-70.

1880 Branfoot, Arthur Mudge, M.D., Pantheon road, Madras. *Hon. Loc. Sec.*

1875 Brewer, Alexander Hampton, 201, Queen's road, Dalston, E.

Elected

1862 Brickwell, John, Sawbridgeworth, Herts.

1872 Bridgwater, Thomas, M.B., Harrow-on-the-Hill, N.W.

1864 Bright, John Meaburn, M.D., The Glen, Forest hill, Sydenham, S.E. *Council*, 1873-74.

1869 Brisbane, James, M.D., 21, Park road, Regent's park, N.W.

1866 Brodie, George B., M.D., Consulting Physician-Accoucheur to Queen Charlotte's Lying-in Hospital; 3, Chesterfield street, Mayfair, W. *Council*, 1873-75.

1876 Brookhouse, Charles Turing, M.D., 43, Manor road, New Cross, S.E.

1878 Brooks, Job Edwin, L.R.C.P. Ed., 54, Mill street, Ludlow, Salop.

1868 Brown, Andrew, L.R.C.P. Ed., Elton villa, Bartholomew road, Kentish town, N.W.

1865 Brown, D. Dyce, M.D., 29, Seymour Street, Portman square, W.

1878 Brown, George, 3, Gibson square, Islington.

1866 Brown, George Dransfield, Henley villa, Uxbridge road, Ealing, Middlesex.

1878 Browning, Benjamin, 70, Union road, Rotherhithe.

1880 Bruce, Robert, 70, Old street, St. Luke's, E.C.

1876 Brunjes, Martin, 27, Edgeware road, W.

1865 Brunton, John, M.D., M.A., Surgeon to the Royal Maternity Charity; 21, Euston road, N.W. *Council*, 1871-3. *Vice-Pres.* 1882-3.

1863 Bryant, Thomas, F.R.C.S., Surgeon to Guy's Hospital; 53, Upper Brook street, W. *Council*, 1866-67.

O.F. Bryant, Walter John, F.R.C.S., M.R.C.P. Ed., 23A, Sussex square, Hyde park gardens, W. *Council*, 1859.

1870 Buck, Joseph Randle, L.R.C.P. Ed., 26, Sidbury, Worcester.

1882* Buller, Audley Cecil, 27, Oxford Mansion, W.

1878 Buncombe, J. Dobree, Victoria West, Cape Colony.

Elected

1861 Bunny, Joseph, M.D., Hon. Surgeon to the Newbury Dispensary ; Northbrook street, Newbury, Berks.

1877 Burchell, Peter Lodwick, M.B., Surgeon-Accoucheur to the City of London Lying-in Hospital ; 2, Kingsland road, E. *Council*, 1882-3.

1877 Burd, Edward, M.D., M.C., Senior Physician to the Salop Infirmary ; Newport House, Shrewsbury. *Hon. Loc. Sec.*

1878 Burn, Stacey Southerdon, Richmond, Surrey.

1862 Burton, John Moulden, F.R.C.S., Lee park lodge, Lee, Kent, S.E. *Council*, 1868-69.

1878 Burton, William, L.R.C.P. Ed., 79, New North road, Hoxton, N.

1878 Butler-Smythe, Albert Charles, M.R.C.P. Edin., 35, Brook street, Grosvenor square, W.

1868 Butt, William Frederick, L.R.C.P. Lond., 25 Park street, Park lane, W. *Council*, 1876-78.

1861 Candlish, Henry, M.D., Physician to the Alnwick Infirmary ; 26, Fenkle street, Alnwick, Northumberland.

1861 Candy, John, M.D., Surgeon-Major, Army Medical Department, Station Hospital, Portland. [Messrs. Wm. Watson & Co., Anglo-Indian Agency, 27, Leadenhall street, E.C.] 3, Prospect place, Portland.

1872 Carless, Edward Nicholls, M.B., C.M., Lansdowne grove, Devizes, Wilts.

1863 Carlyle, David, M.D., 2, The Crescent, Carlisle. *Hon. Loc. Sec.*

1872 Carter, Charles Henry, M.D., Physician to the Hospital for Women ; 45, Great Cumberland place, Hyde Park, W. *Council*, 1880-2.

1877 Carver, Eustace John, Fairlawn, Fulham.

1869 Caskie, John Boyd, M.D., 89, Goswell road, E.C.

1878 Caskie, William Alex., M.A., M.B., Manse Court, 17, Main street, Largs, Ayrshire, N. B.

Elected

1870 Causton, William Henry, 1, Pomona place, Hammersmith.

1863 Cayzer, Thomas, Mayfield, Aigburth, Liverpool.

1875 Chaffers, Edward, F.R.C.S., 54, North street, Keighley, Yorkshire.

1873 Chalmers, John, M.D., 43, Caledonian road, N.

1876 Champneys, Francis Henry, M.A., M.B. Oxon., Assistant Obstetric Physician to St. George's Hospital, 60, Great Cumberland place, W. *Council*, 1880-1. *Hon. Lib.* 1882-3.

1859 Chance, Edward John, F.R.C.S., Surgeon to the Metropolitan Free Hospital and City Orthopædic Hospital; 59, Old Broad street, City, E.C.

1867* Charles, T. Edmondstoune, M.D., Cannes, France. *Council*, 1882-3.

1874 Charlesworth, James, 25, Birch terrace, Hanley, Staffordshire.

1868 Child, Edwin, "Vernham," New Malden, Kingston-on-Thames, Surrey.

1863* Chisholm, Edwin, M.D., Abergeldie, Ashfield, near Sydney, New South Wales. [Per Messrs. Turner and Henderson, care of Messrs. W. Dawson, 121, Cannon street, E.C.].

1879 Churchill, Alex. Ferrier, M.B., Surgeon-Major, V Lines, South Camp, Aldershot.

1859 Claremont, Claude Clarke, Millbrook House, 1, Hampstead road, N.W.

1859 Clark, James Fenn, Clent house, Beauchamp square, Leamington. *Hon. Loc. Sec.*

1874 Clark, James Henry, L.R.C.P. Ed., Goschen Post-office, St. Elizabeth, Jamaica. [Per J. W. Goodinge, 16, Aldersgate street, E.C.]

1879 Clarke, Reginald, South Lodge, Lee park, Lee, S.E.

1872 Clarke, William Michell, late Surgeon to the British General Hospital; 2, York buildings, Clifton, Bristol.

Elected

O.F. CLAY, CHARLES, M.D., late Lecturer on Midwifery and Clinical Medicine in St. Mary's Hospital, Manchester; Audenshaw Lodge, Audenshaw; and 101, Piccadilly, Manchester. *Council*, 1863-65.

1876 CLAY, GEORGE LANGSFORD, West View, 443, Moseley road, Highgate, Birmingham.

O.F. CLAY, JOHN, Professor of Midwifery, Queen's College, Birmingham; Allan House, Steelhouse lane, Birmingham. *Council*, 1868-69. *Vice-Pres.* 1872-4.

O.F. CLEVELAND, WILLIAM FREDERICK, M.D., Stuart villa, 199, Maida vale, W. *Council*, 1863-64. *Vice-Pres.* 1875-77.

1881 CLOSE, JAMES ALEX, M.B., L.R.C.P. Ed., Summerfield, St. Clair Co., Illinois, U.S.A.

1882 CLUBBE, CHARLES PERCY BARLEE, L.R.C.P. Lond.

1865* COATES, CHARLES, M.D., Physician to the Bath General and Royal United Hospitals; 10, Circus, Bath.

1882 COATES, FREDERICK WILLIAM, M.D., St. John street, Salisbury.

1859 COCKELL, FREDERICK EDGAR, 144, Amherst road, Hackney, N.E.

1878 COCKELL, FREDERICK EDGAR, Jun., 176, Richmond road, Dalston, E.

1875 COFFIN, RICHARD JAS. MAITLAND, F.R.C.P. Ed., Alwington house, Baron's court, West Kensington, W.

1878 COFFIN, THOMAS WALKER, 81, Queen's crescent, Haverstock hill, N.W.

1875 COLE, RICHARD BEVERLY, M.D. Jefferson Coll. Philad., San Francisco, California, U.S.

1876 COLEMAN, MATTHEW OWEN, M.D., 5, Victoria terrace, Surbiton, Surrey.

1877 COLMAN, WALTER TAWELL, Hon. Surgeon to the Brighton Hospital for Women; 87, Buckingham road, Brighton.

1866 COOMBS, JAMES, M.D., Bedford.

1873 COOPER, FRANK W., Leytonstone, Essex.

Elected

1874 Cooper, Herbert, L.R.C.P. Ed., Rosslyn hill, Hampstead, N.W.

1861 Cooper, John, M.R.C.P. Ed., Clapham rise, S.W.

1875 Cordes, Aug., M.D., Professor of Obstetrics at the University of Geneva; 8, Corraterie, Geneva.

1866 Cornwall, James, F.R.C.S., Fairford, Gloucestershire.

1860 Corry, Thomas Charles Steuart, M.D., Senior Surgeon to the Belfast General Dispensary; 146, Donegall Pass, Belfast. *Council*, 1867. *Hon. Loc. Sec.*

1859 Cory, Frederick Charles, M.D., Portland villa, Buckhurst hill, Essex. *Council*, 1867-69.

1875 Cory, Robert, M.D., Assistant Obstetric Physician to St. Thomas's Hospital; 73, Lambeth Palace road, S.E. *Council*, 1879-81.

1879 Cowan, George Hoyle, M.B., Napanee, Ontario, Canada.

1869 Cox, Richard, L.R.C.P. Ed., Theale, near Reading.

1877 Crawford, James, L.K.Q.C.P.I., Ightham, Sevenoaks.

1882 Crease, James Robertson, F.R.C.S. Ed., L.R.C.P. Ed., 2, Ogle Terrace, South Shields.

1881 Creasy, James Gideon, Brasted, Sevenoaks, Kent.

1876 Crew, John, Higham Ferrers, Northamptonshire.

1859 Croft, J. McGrigor A. T., M.D., M.R.C.P., 15, Abbey road, St. John's Wood, N.W.

1874 Crombie, Charles Mann, M.B. & C.M., 10, Union terrace, Aberdeen.

1881 Cronk, Herbert George, M.B. Camb., Repton, near Burton-on-Trent.

1869 Cross, Robert Shackleford, Petersfield, Hants.

1875* Cullingworth, Charles James, Surgeon to St. Mary's Hospital, Manchester; 260, Oxford road, Manchester. *Council*, 1883.

1859 Culpeper, William Moe, 1, Brunswick terrace, Palace gardens, Kensington, W.

Elected

1862 Cumberbatch, Lawrence Trent, M.D., 25, Cadogan place, Belgrave square, S.W. *Council*, 1868-70. *Vice-Pres.*, 1878.

1867 Cuolahan, Hugh, M.D., 9, Grange road, Bermondsey, S.E.

1859 Curgenven, J. Brendon, 11, Craven hill gardens, Bayswater, W. *Council*, 1870-72.

1868 Daly, Frederick Henry, M.D., 185, Amhurst road, Hackney Downs, N.E. *Council*, 1877-9. *Vice-Pres.*, 1883.

1882 Dambrill-Davies, William R., Sandbach, Cheshire.

1876 Davies, Gomer, L.R.C.P. Ed., 66, Pembridge villas, Bayswater, W.

1878 Davies, Henry Naunton, Glyn Rhondda House, Cymer, Pontypridd, Glamorganshire.

O.F. Davis, John Hall, M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery and Diseases of Women and Children at, the Middlesex Hospital; Physician to the Royal Maternity Charity; Consulting Physician-Accoucheur to the St. Pancras Infirmary; 37, Gloucester place, Portman square, W., and 41, Boundary road, N.W. *Council*, 1859, 1864-65. *Vice-Pres.* 1861-63. *Pres.* 1867-68.

1873 Davison, Francis, L.R.C.P. Ed., Saffi, Morocco.

1877 Dawson, Smith Houston, M.D., Campden villa, 203, Maida vale, W.

1878 Day, Edmund Overman, House Surgeon to the Royal Infirmary for Children and Women, Waterloo Bridge road.

1880 Day, William Hankes, Surgeon to the City Prisons, Norwich; All Saints' Green, Norwich.

1859 Day, William Henry, M.D., Physician to the Samaritan Free Hospital for Women and Children; 10, Manchester square, W. *Council*, 1873-75.

1877 Dewar, John, L.R.C.P. Ed., 132, Sloane street, S.W.

1860 Dickenson, John, F.R.C.S., Hon. Surgeon to the Wrexham Infirmary; Wrexham, Denbighshire.

1879 Dolan, Thomas Michael, L.R.C.P. Ed., 32, North parade, Halifax.

Elected

1877 Donovan, John Island, M.D., Skibbereen, Co. Cork.

1879 Doran, Alban H. G., F.R.C.S., Surgeon to Out-Patients, Samaritan Free Hospital; 51, Seymour street, Portman square, W. *Council*, 1883.

1880 Downes, Denis Sidney, L.K.Q.C.P. I., 55, Kentish town road, N.W.

D.F. Drage, Charles, M.D., Hatfield, Herts. *Council*, 1861-4.

1871 Drake-Brockman, Edward Forster, F.R.C S., L.R.C.P. Lond., Surgeon-Major; Superintendent Eye Infirmary, Madras; Professor of Physiology and Ophthalmology, Madras Medical College. [*Per* Messrs. Richardson and Co., East India Army Agency, 13, Pall Mall, S.W.]

1878 Dring, William Ernest, L.R.C.P. Ed., Boughton-under-Blean, Faversham, Kent.

O.F. Duncan, James, M.B., 8, Henrietta street, Covent garden, W.C. *Council*, 1873-74.

1882 Duncan, William Archdeckne, M.D., St. Thomas's Hospital, S.E.

1882 Dutt, Upendra Krishna, L.R.C.P. Ed., 20, Beadon street, Calcutta.

1882 Eady, George John, M.R.C.P. Ed., Roslin, Caterham Valley.

1871 Eastes, George, M.B., F.R.C.S., Surgeon-Accoucheur to the Western General Dispensary; 69, Connaught street, Hyde park square, W. *Council*, 1878-80.

1878 Eaton, John Chamberlin, Ancaster, Grantham, Lincolnshire.

1877 Eddowes, William, Surgeon to the Salop Infirmary, 3, The College, Shrewsbury.

1867 Edis, Arthur W., M.D., Assistant-Physician-Accoucheur to the Middlesex Hospital; Physician to the Chelsea Hospital for Women; 22, Wimpole street, W. *Council*, 1873-74. *Hon. Sec.* 1874-77. *Vice-Pres.* 1878-80.

1879 Elder, George, M.B., C.M., Surgeon to the Hospital for Women, Nottingham; 17, Regent street, Nottingham. *Hon. Loc. Sec.*

Elected

1879 Elkington, Arthur Guy, Surgeon-Major, Grenadier Guards, 52, Gillingham street, Eccleston square, S.W.

1878 Ellery, Richard, L.R.C.P. Ed., Plympton, Devon.

1873 Engelmann, George Julius, A.M., M.D., 3003, Locust street, St. Louis, Missouri, U.S.

1879 Evershed, Charles L., Maltravers street, Arundel, Sussex.

1875 Ewart, John Henry, Surgeon to St. Mary's Hospital for Women and Children; Limefield House, Cheetham hill, Manchester.

1875 Eyeley, Joseph Frederick, L.R.C.P. Lond., 5, Hill-park crescent, Plymouth. *Hon. Loc. Sec.*

1876 Farncombe, Richard, 40, Belgrave street, Balsall heath, Birmingham.

1869 Farquhar, William, M.D., Surgeon-Major, Madras Army, Bangalore, Madras Presidency.

1861 Farr, Geo. F., L.R.C.P. Ed., Slade House, 175, Kennington road, S.E.

1882 Farrar, Joseph, L.R.C.P. Ed., 8, Queen's terrace, Morecambe.

1881 Farrer, George Albert, Spring villa, Brighouse, Halifax.

1879 Fayrer, Sir Joseph, M.D., K.C.S.I., Hon. Physician to H.M. the Queen and to H.R.H. the Prince of Wales; Physician to H.R.H. the Duke of Edinburgh; President, Medical Board, India Office, &c.; 53, Wimpole street, Cavendish square. *Council,* 1883.

1868 Fegan, Richard, M.D., 1, Charlton park terrace, Old Charlton, Kent.

1872 Fergusson, Alexander, M.D., F.R.C.S. Ed., Tweedbrae House, Peebles, N.B.

1873 Finegan, James Herbert, M.D., Obstetric Surgeon to, and Lecturer on Midwifery at, the Liverpool Lying-in Hospital; 48, Rodney street, Liverpool.

1870 Fisher, John Moore, M.D., 27, The Pavement, Clapham, S.W.

1882 Fitzgerald, Charles Egerton, M.D., West Terrace, Folkestone.

1878 Flint, Arthur, L.R.C.P., Westgate-on-Sea, Isle of Thanet.

1877* Fonmartin, Henry de, M.D., Knaphill, Woking, Surrey.

Elected

1877* Ford, James, M.D., Eltham, Kent.

1865 Fowler, James, F.S.A., Hon. Surgeon to the Clayton Hospital and Wakefield General Dispensary; 13, South Parade, Wakefield. *Council*, 1872-4. *Hon. Loc. Sec.*

1862 Frain, Joseph, M.D., Hon. Surgeon to the South Shields Dispensary; Frederick street, South Shields.

1875 Fraser, Angus, M.D., Physician and Lecturer on Clinical Medicine to the Aberdeen Royal Infirmary; 232, Union street, Aberdeen.

1867 Freeman, Henry W., 24, Circus, Bath.

1881 Frodsham, John Mill, M.D., Denham House, Upper Streatham.

1880 Fry, John Blount, Swindon, Wiltshire.

1867 Fuller, Charles C., 33, Albany street, Regent's park, N.W.

1874* Galabin, Alfred Lewis, M.A., M.D., Assistant Obstetric Physician to, and Joint Lecturer on Midwifery at, Guy's Hospital; 14, St. Thomas's street, Southwark, S.E. *Council*, 1876-78. *Hon. Lib.* 1879. *Hon. Sec.* 1880-3.

1863 Galton, John H, M.D., Woodside road, Upper Norwood, S.E. *Council*, 1874-6.

1881 Gandy, William, Hill Top, Gipsy hill, S.E.

1879 Gardner, John Twiname, 6, Hillsboro' terrace, Ilfracombe.

1872 Gardner, W., M.A., M.D., 551, St. Joseph street, Montreal, Canada.

1863 Garman, Henry Vincent, Kent House, 6, Bow road, E.

1876 Garner, John, 52, New Hall street, Birmingham.

1879 Garstang, Thomas W. Harropp, Oakleigh, Dobcross, near Manchester.

1873 Garton, William, M.B., F.R.C.S., Hardshaw street, St. Helen's, Lancashire.

1859 Gaskoin, George, 7, Westbourne park, W. *Council*, 1870-72.

1875 Gawith, J. Jackson, 23, Westbourne park terrace, W.

1877 Gell, Thomas Silvester, M.D., St. John's Lodge, Kensal green, W.

Elected

1859 Gervis, Henry, M.D., F.R.C.P., Obstetric Physician to, and Lecturer upon Obstetric Medicine at, St. Thomas's Hospital; Examiner in Obstetric Medicine at the University of London; 40, Harley street, Cavendish square. *Council*, 1864-66. *Hon. Sec.* 1867-70. *Vice-Pres.* 1871-3. *Treas.* 1878-81. *Pres.* 1883.

1866 Gervis, Frederick Heudebourck, 1, Fellows road, Haverstock hill, N.W. *Council*, 1877-9.

1875 Gibbings, Alfred Thomas, M.D., 93, Richmond road, Dalston, N.E.

1874 Gibson, James Edward, Hillside, West Cowes, Isle of Wight.

1866 Giddings, William Kitto, L.R.C.P. Ed., Shaftesbury House, Calverley, near Leeds, Yorkshire.

1877 Giffard, Douglas William, 44, Old Steyne, Brighton.

1875 Giles, Peter Broome, L.R.C.P. Ed., The Quinta, Brobury, Hereford.

1869 Gill, William, L.R.C.P. Lond., 11, Russell square, W.C.

1867 Gittins, John, L.R.C.P. Ed., St. Olave's Union, Parish street, Southwark, 134, Tooley street, S.E.

1871 Goddard, Eugene, L.R.C.P. Lond., North Lynne, Highbury New Park, N.

1876 Godfray, Alfred Charles, M.B., 43, La Motte street, Jersey.

1877 Godson, Charles, F.R.C.S., 1, Astwood road, Cromwell road, South Kensington, S.W.

1871 Godson, Clement, M.D., C.M., Consulting Physician to the City of London Lying-in Hospital; Assistant Physician-Accoucheur to St. Bartholomew's Hospital; 9, Grosvenor street, W. *Council*, 1876-77. *Hon. Sec.* 1878-81. *Vice-Pres.* 1882-3.

1868 Godwin, Ashton, M.D., 28, Brompton crescent, Brompton, S.W.

1873 Goldsmith, John, M.D., Highworth House, Worthing, Sussex.

Elected

1873 Goodchild, Nathaniel, L.R.C.P. Ed., 9, Highgate road, N.W.

1869 Goss, Tregenna Biddulph, 36, The Paragon, Bath.

1875 Gray, James, M.D., 15, Newton terrace, Glasgow.

1874 Greene, William Thomas, M.D., Moira House, Peckham rye, S.E. *Council*, 1880.

1863 Griffith, G. de Gorrequer, Lecturer on Diseases of Women and Children at the Zenana and Medical Mission Training School for Ladies; Consulting Physician to the Hounslow Hospital; 34, St. George's square, S.W.

1869 Griffith, John T., M.D., Talfourd House, Camberwell, S.E.

1879 Griffith, Walter Spencer Anderson, F.R.C.S., Assistant Demonstrator of Anatomy, St. Bartholomew's Hospital; 66, Guilford street, Russell square, W.C.

1880 Griffiths, Griffith, Brynedyn, Pontardawe, Swanse Valley.

1870 Grigg, William Chapman, M.D., Physician to the In-patients, Queen Charlotte's Lying-in Hospital; Assistant Obstetric Physician to the Westminster Hospital; Assistant-Physician to the Victoria Hospital for Children; 6, Curzon street, Mayfair. *Council*, 1875-77.

O.F. Grimsdale, Thos. F., L.R.C.P. Ed., Consulting Surgeon to the Lying-in Hospital, and late Lecturer on Diseases of Children, &c., at the Royal Infirmary School of Medicine; 29, Rodney street, Liverpool. *Council*, 1861-62. *Vice-Pres.* 1875-76.

1882 Gripper, Walter, M.B. Cantab., M.R.C.S., 6, Sumner South Kensington, S.W.

1880 Grogono, Walter Atkins, 216, High Street, Stratford, E.

1877 Grosholz, Frederick Hermann Varley, L.K.Q.C.P.I., Pier House, Aberdovey, Merionethshire, North Wales.

1876 Groth, Ernst R. G., M.D., 5, Weymouth street, Portland place, W.

Elected

1879 Grove, William Richard, M.D., St. Ives, Huntingdonshire.

1867 Hadaway, James, L.R.C.P. Ed., 47B, Welbeck street, Cavendish square, W.

1876 Hadden, John, M.D., 31, West street, Horncastle, Lincolnshire.

1881 Hair, James, M.D., Westgate, Peterborough.

1859 Hall, Frederick, 1, Jermyn street, St. James's, S.W.

1871 Hallowes, Frederick B., Redhill, Reigate, Surrey.

1880 Hames, George Henry, F.R.C.S., 4, Orme Square, Bayswater, W.

1880 Hamilton, Thomas, M.D., Melrose House, Green lanes, Stoke Newington, N.

1874 Hannan, Francis John, M.B., Avonside, Downton, Wilts.

1860 Hardey, Key, Surgeon to the West City Dispensary; 4, Wardrobe place, Doctors' Commons, E.C.

1877 Harper, Gerald S., 5, Hertford street, May Fair, W.

O.F. Harper, Philip H., F.R.C.S., 30, Cambridge street, Hyde park, W.

1878 Harries, Thomas Davies, F.R.C.S., 36, North Parade, Aberystwith, Cardiganshire.

O.F. Harrinson, Isaac, F.R.C.S., Castle street, Reading, Berks. *Council*, 1862-65. *Hon. Loc. Sec.*

1862 Harris, Charles, M.D., Northiam, Ashford, Kent.

1872 Harris, Henry, M.D., F.R.C.S., Trengweath place, Redruth Cornwall.

1867 Harris, William H., M.D., Professor of Midwifery in the Madras Medical College, and Superintendent of the Lying-in Hospital, Madras; 78, Oxford gardens, W. [agent: Mr. H. K. Lewis, Gower street].

1861 Harris, William John, 26, Marine Parade, Worthing. *Hon. Loc. Sec.*

1880 Harrison, Richard Charlton, 4, The Terrace, St. Mary's vale, Chatham.

1879 Harvey, George, L.R.C.P. Ed., Wirksworth, Derbyshire.

1880 Harvey, John Stephenson, 26, Rue Wissocq, Boulogne-sur-Mer, France.

Elected

1865 Harvey, Robert, M.D., 52, Chowringhee, Calcutta. [Per Messrs. Cochran and Anderson, 152, Union street, Aberdeen.] *Hon. Loc. Sec.*

1873 Hatherly, Henry Reginald, L.R.C.P. Ed., Arundel House, Park side, Nottingham.

1865 Hayes, Hawkesley Roche, Basingstoke, Hants.

1873 Hayes, Thomas Crawford, M.D., Assistant Obstetric Physician to King's College Hospital; 17, Clarges street, Piccadilly, W. *Council*, 1876-78.

1880 Heath, William Lenton, M.B., 85, Gloucester Road, South Kensington, S.W.

1867 Hembrough, John William, Ivy cottage, Waltham, Grimsby.

1870 Henderson, Alexander, 2, Meadow Bank place, Rose vale, Partick, Glasgow.

1878 Henry, Louis, M.D., Melbourne, Victoria, Australia [per J. Kilpatrick, Esq., 2, Northampton Square, Clerkenwell, E.C.].

1881 Hepburn, William Alex., Rosslyn House, Coxhoe, Co. Durham.

1876 Herman, George Ernest, M.B., Assistant Obstetric Physician to the London Hospital, 7, West street, Finsbury circus, E.C. *Council*, 1878-79. *Hon. Lib.* 1880-1. *Hon. Sec.* 1882-3.

O.F. Hewitt, Graily, M.D., F.R.C.P., Professor of Midwifery in University College, London, and Obstetric Physician to University College Hospital; 36, Berkeley square, W. *Hon. Sec.* 1859-64. *Treas.* 1865-66. *Vice-Pres.* 1867-68. *Pres.* 1869-70.

1867 Hickinbotham, James, M.D., Physician to the Birmingham and Midland Hospital for Women; 26, Broad street, Birmingham.

1876 Hicks, Edward John W., M.D., C.M., Port Elliot, South Australia.

Elected

1860 Hicks, John Braxton, M.D., F.R.C.P., F.R.S., Physician-Accoucheur to, and Lecturer on Midwifery and the Diseases of Women and Children at, Guy's Hospital; 24, George street, Hanover square. *Council*, 1861-2, 1869. *Hon. Sec.* 1863-65. *Vice-Pres.* 1866-68. *Treas.* 1870. *Pres.* 1871-2.

1860 Higgs, Thomas Frederic, L.R.C.P. Ed., Beaconsfield House, Dudley, Worcestershire.

1879 Hill, T. Wood, L.R.C.P. Ed., 96, Earl's court road, W.

1872 Hilliard, Robert Harvey, M.D., Aylesbury.

1876 Hoar, William. [Care of E. Ground, M.B., Gabriel's hill, Maidstone.]

O.F. Hodges, Richard, M.D., F.R.C.S., 25, York place, Baker street, W.

1864 Hoffmeister, William Carter, M.D., Surgeon to the Queen in the Isle of Wight; Clifton House, Cowes, Isle of Wight. *Council*, 1877-9.

1875 Hollings, Edwin, L.R.C.P. Ed., 4, Gordon street, Gordon square, W.C.

1859 Holman, Constantine, M.D., Barons, Reigate, Surrey. *Council*, 1867-69. *Vice-Pres.* 1870-71.

1880 Honiball, Oscar Dunscombe, M.D., New Amsterdam, British Guiana.

1864 Hood, Wharton Peter, M.D., 65, Upper Berkeley street, Portman square, W.

1881 Hopcroft, Thomas, L.R.C.P. Ed., High street, Dorking.

1872 Hope, William, M.D., Physician to Queen Charlotte's Lying-in Hospital; 56, Curzon street, Mayfair, W. *Council*, 1877-9.

1876 Horsman, Godfrey Charles, 22, King street, Portman square, W.

1877 Howell, Horace Sydney, M.D, 11, Boundary road, St. John's Wood, N.W.

1879 Howie, James Muir, M.D. Edin., 50, Rodney street, Liverpool.

1879 Hubbard, Thomas Wells, Lenham, Bromley, Kent.

Elected

1882 Hunt, Joseph William, M.D., B.S., 101, Queen's road, Dalston, E.

1878 Husband, Walter Edward, 56, Bury New Road, Manchester.

1859 Hutchinson, Jonathan, F.R.C.S., Surgeon to the London Hospital; 15, Cavendish square, W. *Council*, 1869-71. *Vice-Pres.* 1881-3.

1882 Hutton, Robert James, L.R.C.P. Ed., Stapleton House, Stapleton Hall road, Crouch hill, N.

1877 Ilott, James John, L.R.C.P. Ed., Resident Medical Officer, Whitechapel Union Infirmary, Baker's row, E.

1879 Inkson, James, M.D., Surgeon-Major, Army Medical Department; care of Mr. J. Taylor, 37, Albert square, Clapham.

1876 Irwin, John Arthur, M.D., M.A., 235, Brunswick street, Manchester.

1864 Jackson, Edward, M.B., 81, Osborne Road, Jesmond, Newcastle-on-Tyne.

1864 Jackson, Robert, M.D., 53, Notting hill square, W.

1873 Jakins, William Vosper, L.R.C.P. Ed., Sturt street, Ballarat, Victoria. [Per Isaac N. Jakins, Esq., 32, Osnaburgh street, Regent's park.]

1872 Jalland, Robert, Horncastle, Lincolnshire.

1878 James, Walter Culver, M.D., M.C., 11, Marloes road, Kensington, W.

1877 Jamieson, Patrick, M.A., 3, St. Peter's street, Peterhead, Aberdeenshire.

1881 Jeffcoat, James Henry, Surgeon Major, Army Medical Department, 6, Upper Nile terrace, Rochester. *Hon. Loc. Sec.*

1877 Jenks, Edward W., M.D., Professor of Medical and Surgical Diseases of Women and of Clinical Gynæcology, Chicago Medical College; 170, State street, Chicago, Illinois, U.S.

1882 Jennings, Charles Egerton, L.R.C.P. Lond., Abbey House, Malmesbury.

1877 Johnson, Samuel, M.D., 5, Hill street, Stoke-upon-Trent.

Elected

1881 Johnston, Joseph, M.D., Brigade Surgeon, Army Medical Department; St. John's Wood Barracks, N.W.

1879 Johnston, Wm. Beech, M.D., 157, Jamaica road, Bermondsey, S.E.

1868 Jones, Evan, Ty-Mawr, Aberdare, Glamorganshire. *Hon. Loc. Sec.*

1878 Jones, H. Macnaughton, M.D., Physician to the Cork Maternity, and County and City of Cork Hospital for Diseases of Women and Children; St. Patrick's place, Cork.

1881 Jones, James Robert, M.B., Box, 320, Winnipeg, Manitoba, Canada.

1868 Jones, John, 60, King street, Regent street, W.

1874 Jones, John Thomas, L.K.Q.C.P. I., 179, Brixton road, S.W.

1876 Jones, Leslie, M.D., C.M., 3, Brighton parade, Blackpool.

1873 Jones, Philip W., Silver street, Enfield.

1873 Jones, Thomas Derry, L.R.C.P. Ed., 328, Upper street, Islington, N.

1879 Joubert, Charles Henry, M.D., Darjeeling, Bengal; [care of Messrs. Gray and Co., 21, Canning street, Calcutta].

1878 Judson, Thomas Robert, L.R.C.P. Lond., Hayman's Green, West Derby, Liverpool.

1875 Jukes, Augustus, M.B., N. W. Mounted Police, Regina, N. W. Territory, Canada.

1878 Kane, Nathaniel H. K., M.D., Lanherne, Kingston hill, Surrey.

1880 Kebbell, Alfred, Flaxton, York.

O.F. Keele, George Thomas, 81, St. Paul's road, Highbury, N.

1874 Kempster, William Henry, L.R.C.P. Ed., Oak House, Bridge road, Battersea.

1879 Ker, Hugh Richard, L.R.C.P. Ed., Comberton House, Hales-Owen, Birmingham.

1865* Kernot, George Charles, M.D., 5, Elphinstone road, Hastings, Sussex.

Elected

1872 KERR, NORMAN S., M.D., F.L.S., 42, Grove road, Regent's park, N.W.

1877 KERSWILL, GEORGE, Looe, Liskeard, Cornwall.

1877* KERSWILL, JOHN BEDFORD, M.R.C.P. Ed., Fairfield, St. German's, Cornwall.

1878 KHORY, RUSTONJEE NASERWANJEE, M.D. Brussels, L.Med. Bombay, Physician to the Parell Dispensary, Bombay, Lecturer to Native Midwives, Grant Medical College, Bombay. [39, St. James's square, Holland park.]

O.F. KIALLMARK, HENRY WALTER, 5, Pembridge gardens, Bayswater. *Council*, 1879-80.

1860 KINGSFORD, EDWARD, F.R.C.S., Surgeon to the Sunbury Dispensary; Sunbury-on-Thames.

1862 KIRKPATRICK, JOHN RUTHERFORD, M.B. Dubl., Examiner in Midwifery, Royal College of Surgeons, Ireland; 4, Upper Merrion street, Dublin. *Council*, 1872-4.

1872* KISCH, ALBERT, 3, Sutherland gardens, Maida vale, W.

1867 KNAGGS, HENRY GUARD, M.D., 189, Camden road, N.W.

1877 KNIGHT, CHARLES FREDERICK, 34, Claremont square, N.

1876 KNOTT, CHARLES, M.R.C.P. Ed., Liz Ville, Elm grove, Southsea.

1881 LACY, CHARLES SETHWARD DE LACY, M.B., 31, Grosvenor street, W.

1876 LANCHESTER, HENRY THOMAS, M.D., Park House, Park lane, Croydon, Surrey.

1878 LANG, ALEX. M., M.B., 41, Warwick road, South Kensington.

1867 LANGFORD, CHARLES P., 29, Duncan terrace, Islington, N.

O.F. LANGMORE, JOHN CHARLES, M.B., F.R.C.S., 20, Oxford terrace, Hyde park, W. *Council*, 1861-64. *Vice-Pres.* 1869-71.

1872 LATTEY, JAMES, 23, St. Mary Abbott's terrace, Kensington, W.

1875 LAWRENCE, ALFRED EDWARD AUST, M.D., Physician-Accoucheur to the Bristol General Hospital; 15, Richmond hill, Clifton, Bristol.

Elected

1878 Leachman, Albert Warren, M.D., Fairley, Petersfield, Hants.

1882 Lee, Francis Boynton, F.R.C.P. Ed., The Elms, Heckmondwike.

1860 Leishman, William, M.D., Physician to the University Lying-in Hospital, Regius Professor of Midwifery in the University of Glasgow; 11, Woodside crescent, Glasgow. *Council*, 1866-68. *Vice-Pres.* 1869-70.

1882 Leonard, Henry James, M.B., 279, Camden road, N.W.

1881 Le Page, John Fisher, L.R.C.P. Ed., Meadowfield House, near Durham.

1874 Lewis, Charles Francis, L.R.C.P. Ed., Bromfield's, Henfield, Sussex.

1877 Lewis, John Riggs Miller, M.D., Deputy-Surgeon General, Woodlands, Queen's road, Norbiton, S.W.

1875 Liebman, Carlo, M.D. Vienna, Principal Surgeon, Trieste Civil Hospital, Trieste, Austria.

1876 Lilley, George Herbert, M.D., M.R.C.P., Medical Officer H.M.'s Convict Prison, Portland, Dorset.

1873 Lindsay, W. B., M.D., Strathroy, Ontario, Canada.

1874 Lithgow, Robert Alexander Douglas, M.R.C.P. Ed., 1, Walton place, Hans place, S.W.

1868 Llewellyn, Evan, L.R.C.P. Ed., 9, Mount place, London Hospital, E.

1872* Lock, John Griffith, M.A., Lansdowne House, Tenby.

1859 Lombe, Thomas Robert, M.D., Bemerton, Torquay.

1870 Long, Mark, M.D., Ludlow, Salop.

1878 Lorimer, John Archibald, 33, Castle street, Farnham.

1876 Lovett, Henry Albert, Swansea, Tasmania. [Per S. W. Lovett, St. Stephen's street, Norwich.]

1862 Lowe, George, F.R.C.S., 5, Horninglow street, Burton-on-Trent, Staffordshire.

1866 Lucey, William Cubitt, M.D., The Elms, Bushhill Park, Enfield.

Elected

1873 Lush, William John Henry, F.R.C.P.Ed., Associate of King's College, London; Fyfield House, Andover.

1878* Lycett, John Allan, The "Hollies," Graiseley, Wolverhampton.

1869 Lydall, Wykeham H., L.R.C.P. Ed., 19, Mecklenburgh square, W.C.

1871 McCallum, Duncan Campbell, M.D., Professor of Midwifery and Diseases of Women and Children, McGill University; Physician to the University Lying-in Hospital; and Physician to the Montreal General Hospital; 45, Union avenue, Montreal, Canada.

1879 Mackeough, George J., M.D., Chatham, Ontario, Canada.

O.F. Mackinder, Draper, M.D., Consulting-Surgeon to the Gainsborough Dispensary; Gainsborough, Lincolnshire. *Council*, 1871-3.

1879 Maclaurin, Henry Normand, M.D., 155, Macquarie street, Sydney, New South Wales.

1879 Macneilage, David, L.R.C.P. Ed., 5, Hilda place, Saltburn, Yorkshire. *Hon. Loc. Sec.*

1879 MacSwinney, George Henry, M.D., Westall House, Brook green, Hammersmith.

1859 Madge, Henry M., M.D., 4, Upper Wimpole street, W. *Council*, 1863-65. *Vice-Pres.* 1872-4.

1871 Malins, Edward, M.D., Obstetric Physician to the General Hospital, Birmingham; 8, Old square, Birmingham. *Council*, 1881-3.

1876 Manby, Frederick Edward, 10, King street, Wolverhampton.

1876 Manders, Horace, Agincourt House, York town, Farnborough Station.

1868 March, Henry Colley, M.D., 2, West street, Rochdale.

1860 Marley, Henry Frederick, Padstow, Cornwall.

1862 Marriott, Robert Buchanan, Swaffham, Norfolk.

1876 Marshall, Francis John, Resident Medical Officer to St. George's Hospital.

Elected

1873 Martin, Henry Charrington, M.B., C.M., 11, Somers place, Hyde park, W.

1875 Mason, John Wallis, 1, Osnaburgh terrace, Regent's park, W.

1877 Mason, Samuel Butler, L.R.C.P. Ed., Denham House, Pontypool, Monmouthshire.

1877 Maunsell, H. Widenham, A.M., M.D., Pitt and London street, Dunedin, New Zealand.

1877 May, Lewis James, Bountis Thorne, Seven Sisters road, Finsbury Park, N.

O.F. Meadows, Alfred, M.D., Physician-Accoucheur to, and Lecturer on Midwifery at, St. Mary's Hospital; 27, George street, Hanover square, W. *Council*, 1862-64. *Hon. Sec.* 1865-66. *Hon. Lib.* 1865. *Treas.* 1867-69. *Vice-Pres.* 1874-6.

1882 Meredith, William Appleton, M.B., C.M., 6, Queen Anne street, Cavendish square, W.

1875 *Miles, Abijah J., M.D., Professor of Diseases of Women and Children in the Cincinnati College of Medicine, Cincinnati, Ohio, U.S.

1871 Miller, Hugh, M.D., Physician-Accoucheur to the Glasgow Maternity Hospital; 298, Bath crescent, Bath street, Glasgow.

1876 Millman, Thomas, M.D., Asylum for the Insane, London, Ontario, Canada.

1880 Mills, Robert James, M.B., M.C., All Saints' Green, Norwich.

1876 Milson, Richard Henry, M.D., 88, Finchley road, South Hampstead, N.W.

1869 Milward, James, 27, Charles Street, Cardiff.

1869 Minns, Pembroke R. J. B., M.D., Thetford, Norfolk.

1867 Mitchell, Robert Nathal, M.D., Chester House, Wickham road, Lewisham High road, S.E.

1873 Monckton, Marshall, L.F.P.S. Glasg., Maidstone.

Elected

1868 Moothoosawmy Moodelly, P. S., M.D., F.L.S., Native Surgeon, Uncovenanted Service, and Teacher of Midwifery, L. F. Midwifery, Manargoodi, Tanjore District, Madras Presidency.

1877 Moon, Frederick, M.B., Bexley house, Greenwich.

1873 Moon, Robert Henry, F.R.C.S., Fern Lodge, Lower Norwood.

1869 Moore, Joseph, M.D., Haroldean, Thornton Heath, Surrey.

1859 Moorhead, John, M.D., Surgeon to the Weymouth Infirmary and Dispensary; Weymouth, Dorset.

1879 Moullin, James A. Mansell, M.A., M.D., 68, Wimpole street, Cavendish square, W.

1878 Mowat, George, St. Albans.

1878 Muir, James C. P., L.R.C.P. Ed., 44, Cornwall road, Westbourne park.

1877 Murphy, James, M.D., Surgeon to the Hospital for Women and Children, Sunderland, and Lecturer on Botany in the University of Durham College of Medicine at Newcastle-upon-Tyne; Holly House, Sunderland. *Hon. Loc. Sec.*

O.F. Murray, Gustavus Charles P., M.D., Obstetric Physician to the Great Northern Hospital; 66, Great Cumberland place, Hyde park, W. *Council*, 1864-65. 1883. *Hon. Sec.* 1866-69. *Vice-Pres.* 1870-72. *Treas.* 1873-77.

1877 Murray, J. Jardine, 99, Montpelier road, Brighton.

O.F. Musgrave, Johnson Thomas, L.R.C.P. Ed., Irlam villa, 39, Finchley road, N.W. *Council*, 1859-60.

1880 Nall, Samuel, 34 Highgate road, N.W.

1863 Nason, John James, M.B. Lond., 11, Bridge street, Stratford-on-Avon.

1859 Neal, James, M.D., late Hon. Surgeon to the Lying-in Hospital, Birmingham; Barcelona House, Sandown, Isle of Wight.

1876 Nesbitt, Dawson, M.D., 34, Cambridge place, Hyde Park, W.

Elected

1882 Nesham, Thomas Cargill, M.D., Lecturer in Midwifery in the University of Durham College of Medicine at Newcastle-on-Tyne ; 43, Northumberland street, Newcastle-on-Tyne.

1881 Netherclift, William Henry, Resident Medical Superintendent, Chelsea Infirmary, Cale street, S.W.

1876 Newham, James, 16, Princes street, Cavendish square, W.

1859 Newman, William, M.D., Surgeon to the Stamford and Rutland Infirmary; Barn Hill House, Stamford, Lincolnshire. *Council*, 1873-75. *Vice-Pres.* 1876-77.

1873 Nicholson, Arthur, M.B. Lond., 98, Montpellier road, Brighton.

1879 Nicholson, Emilius Rowley, M.D., 89, Camden road, N.W.

1876 Nix, Edward James, M.D., 143, Great Portland street, W.

1882 Norman, John Edward, Lismore House, Hebburn-on-Tyne.

1880 Oakley, John, Holly House, Wood's End, Halifax, Yorkshire.

1868 Oates, Parkinson, M.D., 164, Cambridge street, Eccleston square, S.W.

1876 Ogston, Francis, Junr., M.D., 156, Union street, Aberdeen.

O.F. Oldham, Henry, M.D., F.R.C.P., Consulting Obstetric Physician to Guy's Hospital ; 4, Cavendish place, Cavendish square, W. *Vice-Pres.* 1859. *Council*, 1860, 1865-66. *Treas.* 1861-62. *Pres.* 1863-64. *Trustee.*

1869 Ord, George Rice, Streatham hill, Surrey. *Council* 1881.

1880 Orton, Charles, M.R.C.P. Ed., Nelson place, Newcastle-under-Lyme, Staffordshire.

1877 Osterloh, Paul Rudolph, M.D. Leipzic ; Dresden.

1877 Ostlere, Robert, M.B., C.M., 28, Stoke Newington road, N.

1863 Oswald, James Waddell Jeffries, M.D., 245, Kennington road, S.E.

1880 Outhwaite, William, Hebert House, Denmark Hill, S.E.

1875 Owen, William, 28, Shore road, Hackney, E.

1877 Palmer, Montagu H. C., London road, Newbury, Berks.

Elected

1877 PARAMORE, RICHARD, 18, Hunter street, Brunswick square, W.C.

1873 PARKER, ROBERT WILLIAM, 8, Old Cavendish street, W.

1882 PARKES, LOUIS, M.B., 6, Osnaburgh street, N.W.

1867 PARKS, JOHN, The Wylde, Bury, Lancashire.

1873 PARKS, LUTHER, A.M., M.D., 1, Place Duplaa, Pau, France. [Agents: Messrs. Baring Brothers & Co., 8, Bishopsgate street within, E.C.]

1872 PARR, GEORGE, M.D., 18, Upper Phillimore place, Kensington, W.

1880 PARSONS, SIDNEY, 78, Kensington park road, W.

1865* PATERSON, JAMES, M.D., Hayburn Bank, Partick, Glasgow.

1879 PAULI, THEOPHILUS WILLIAM, L.R.C.P. Ed., Luton, Beds.

1874 PAYNE, WILLIAM S. HELE, 87, Queen's Road, Peckham, S.E.

1882 PEACEY, WILLIAM, M.B., 214, Lewisham high road, S.E.

1864 PEARSON, DAVID RITCHIE, M.D., 23, Upper Phillimore place, Kensington, W.

1871 PEDLER, GEORGE HENRY, 6, Trevor terrace, Rutland gate, S.W.

1880 PEDLEY, THOMAS FRANKLIN, Rangoon, India.

1880 PEEL, ROBERT, 114, Collins street east, Melbourne, Victoria.

O.F. PEIRCE, RICHARD KING, Woodside, Windsor Forest, Berks. *Council*, 1881.

1881 PENNY, GEORGE TOWN, B.A., Stanley House, Oakfield road, Upper Tollington Park, N.

1881 PERIGAL, ARTHUR, M.D., New Barnet, Herts.

1871 PERRIGO, JAMES, M.D., 163, Bleury street, Montreal, Canada. *Hon. Loc. Sec.*

1879* PESIKAKA, HORMASJI DOSABHAI, 23, Hornby row, Bombay.

1879 PHIBBS, ROBERT FEATHERSTONE, L.R.C.P. Ed., Pelham House, 30, Sutherland gardens, Maida vale, W.

1879 PHILLIPS, GEORGE RICHARD TURNER, 24, Leinster square, Bayswater, W.

Elected

1882 PHILLIPS, JOHN, B.A., M.B., 50, Oxford gardens, W.

1878 PHILPOT, JOSEPH HENRY, M.D., 26, South Eaton place, S.W.

1871 PHILPS, PHILIP GEORGE, 4, Queen's road, Peckham, S.E.

1876 PICARD, P. KIRKPATRICK, M.D., 59, Abbey road, St. John's Wood, N.W.

1874 PIGG, THOMAS, M.D., Physician to the Manchester Southern Hospital for Women and Children; 98, Mosley street, Manchester.

1876 PIGGOT, ALLEN, L.R.C.P. Ed., Bourneville Lodge, Beckenham, Kent.

1866 PILCHER, WILLIAM JOHN, 43, High street, Boston, Lincolnshire.

1864 PLAYFAIR, W. S., M.D., F.R.C.P., Physician Accoucheur to H.I. & R.H. the Duchess of Edinburgh; Professor of Obstetric Medicine in King's College, and Obstetric Physician to King's College Hospital; 31, George street, Hanover Square, W. *Council*, 1867. 1883. *Hon. Librarian*, 1868-9. *Hon. Sec.* 1870-72. *Vice-Pres.*, 1873-5. *Pres.* 1879-80.

1880 POCOCK, FREDERICK ERNEST, M.D., The Limes, St. Mark's road, Notting hill, W.

O.F.* POLLARD, WILLIAM, Surgeon to the Torbay Hospital; Southlands, Torquay, Devon.

1877 POOLE, S. WORDSWORTH, M.D., Dunedin, Sidcup, Kent.

1876 POPE, H. CAMPBELL, M.D., F.R.C.S., Broomsgrove Villa, 280, Goldhawk road, Shepherd's Bush, W.

1882 PORTER, JOSEPH FRANCIS, M.D., 1, Bow road, E.

1864 POTTER, JOHN BAPTISTE, M.D., Obstetric Physician to, and Lecturer on Midwifery and the Diseases of Women at, the Westminster Hospital; 20, George street, Hanover square, W. *Council*, 1872-6. *Hon. Lib.* 1877-8. *Vice-Pres.* 1879-81. *Treas.* 1882-3.

1875 POWDRELL, JOHN, 160, Euston road, N.W.

1863 POWELL, JOSIAH T., M.D., 347, City road, E.C.

1864 PRICE, WILLIAM NICHOLSON, Lecturer on Midwifery and the Diseases of Women and Children at the Leeds School of Medicine; Mount Pleasant, Leeds. *Council*, 1876-8.

Elected

1880 PRICKETT, MARMADUKE, M.D., 43, Albion street, Hyde park.

O.F. PRIESTLEY, WILLIAM O., M.D., F.R.C.P., Consulting Obstetric Physician to King's College Hospital; and Consulting Physician-Accoucheur to the St. Marylebone Infirmary; 17, Hertford street, Mayfair, W. *Council*, 1859-61, 1865-66. *Vice-Pres.* 1867-69. *Pres.* 1875-76.

1876 QUIRKE, JOSEPH, L.R.C.P. Ed., The Oaklands, Hunter's lane, Handsworth, Birmingham.

1879 RAITT, THOMAS, M.D., Hill house, Woolwich, Kent, S.E.

O.F. RANDALL, JOHN, M.D., Lecturer on Medical Jurisprudence, St. Mary's Hospital Medical School; Medical Officer, St. Marylebone Infirmary; 35, Nottingham place, W. *Council*, 1877.

1861 RASCH, ADOLPHUS A. F., M.D., Physician for Diseases of Women to the German Hospital; Physician to the Training Hospital, Tottenham; 7, South street, Finsbury square, E.C. *Council*, 1871-3.

1878 RAWLINGS, JOHN ADAMS, M.R.C.P. Ed., 4, Northampton terrace, Swansea.

1870 RAY, EDWARD REYNOLDS, Dulwich, Kent, S.E.

1860* RAYNER, JOHN, M.D., Swaledale House, Quadrant road north, Highbury New Park, N.

1879 READ, THOMAS LAURENCE, 11, Petersham terrace, Queen's gate, S.W.

1874 REES, WILLIAM, Priory House, 129, Queen's crescent, Haverstock hill, N.W.

1879 REEVE, HENRY, 286, Mile End road, and 24, White Horse lane, E.

1879 REID, WILLIAM LOUDON, M.D., 7, Royal crescent, Glasgow.

1875* REY, EUGENIO, M.D., 39, Via Cavour, Turin.

1862 RICHARDS, DAVID, Llangeitho, Cardiganshire.

1880 RICHARDS, GEORGE, L.R.C.P. Ed., Mervyn Lodge, Ashfields Ross, Herefordshire.

1862 RICHARDS, S. SMITH C., 36, Bedford square, W.C

Elected

O.F. Richardson, Richard, L.R.C.P. Ed., Bryngwy, Rhayader, Radnorshire.

1872 Richardson, William L., M.D., A.M., Assistant Professor of Obstetrics in Harvard University; Visiting Physician to the Boston Lying-in Hospital; 76, Boylston street, Boston, Massachusetts, U.S.

1872 Rigden, George, Surgeon to the Canterbury Dispensary; 60, Burgate street, Canterbury.

1871 Rigden, Walter, 231, Brompton road, S.W. *Council*, 1882-3.

O.F.* Roberts, David Lloyd, M.D., Physician to St. Mary's Hospital, Manchester; 11, St. John's street, Deansgate, Manchester. *Council*, 1868-70, 1880-2. *Vice-Pres.* 1871-2. *Hon. Loc. Sec.*

1867 Roberts, David W., M.D., 56, Manchester street, Manchester square, W.

1874 Robertson, William Borwick, M.D., West Dulwich, S.E.

O.F. Robinson, Thomas, M.D., 5, Woburn square, W.C.

1876 Roe, John Withington, M.D., Ellesmere, Salop.

O.F. Rogers, William Richard, M.D., Physician to the Samaritan Free Hospital for Women and Children; Consulting Physician to the Hospital for Women, Vincent square, S.W.; 56, Berners street, Oxford street, W. *Council*, 1870-72.

1874 Roots, William Henry, Canonbury House, Kingston-on-Thames.

1874 Roper, Arthur, 17, Granville park, Blackheath.

1865 Roper, George, M.D., Physician to the Royal Maternity Charity; Physician to the Royal Hospital for Diseases of Children and Women, Waterloo Bridge road; 19, Ovington gardens, S.W. *Council*, 1875-77. 1883. *Vice-Pres.* 1879-81.

1859 Rose, Henry Cooper, M.D., High street, Hampstead, N.W. *Council*, 1875-77.

1880 Ross, David Palmer, M.D., Kingston, Jamaica.

Elected

1879 Ross, Frederick Ogilby, B.A., M.B.

1882 Routh, Amand J. McC., M.B., B.S., 6, Upper Montagu street, W.

O.F. Routh, Charles Henry Felix, M.D., Physician to the Samaritan Free Hospital for Women and Children; 52, Montagu square, W. *Council*, 1859-61. *Vice-Pres.* 1874-6.

1881 Roworth, Alfred Thomas, Gray's, Essex.

1882 Russell, Francis J. R., L.K.Q.C.P., 48, Lupus street, S.W.

1870 Russell, Logan D. H., M.D., 8, Alfred street, Gt. George street, Liverpool.

1866 Saboia, V., M.D., Rio de Janeiro, South America.

1864 Salter, John H., D'Arcy House, Tolleshunt D'Arcy, Kelvedon, Essex.

1875 Salzmann, Frederick William; Senior Surgeon to the Hospital for Women; 18, Montpellier road, Brighton. *Council*, 1880-2. *Hon. Loc. Sec.*

1868* Sams, John Sutton, St. Peter's Lodge, Eltham road, Lee, Kent.

1872 Sangster, Charles, 148, Lambeth road, S.E.

1870 Saul, William, M.D., 4, Charlotte street, Fitzroy square, W.

1863 Savage, Henry, M.D., Consulting Physician to the Samaritan Hospital for Women, Lower Seymour street, Portman square; 14, Bentinck street, W. *Council*, 1871-2.

1872 Savage, Thomas, M.D., Surgeon to the Birmingham and Midland Hospital for Women; 12, Old square, Birmingham. *Council*, 1878-80.

1877 Savory, Charles Tozer, M.D., 1, Douglas road, Canonbury, N.

1879 Schofield, Rt. H. A., M.A., M.B. Oxon. [Care of Alfred T. Schofield, 15, Arundel square, Barnsbury, N.]

O.F. Scott, John, F.R.C.S., 10, Tavistock square, W.C. *Council*, 1868-70. *Vice-Pres.* 1871-3.

Elected

1870 Scott, John, M.D., New street, Sandwich.

1876 Scovil, Francis S., 11, Norton road, Hove, Sussex.

1863 Sequeira, Henry Little, 34, Jewry street, Aldgate, E.C., and Waltham Lodge, Tulse hill.

1866 Sequeira, James Scott, 68, Leman street, Goodman's fields, E., and Crescent House, Cassland Crescent, Cassland road, South Hackney.

1882 Serjeant, David Maurice, M.D., 1, The Terrace, Camberwell, S.E.

1875 Seton, David Elphinstone, M.D., 12, Thurloe place, South Kensington.

1860 Sewell, Charles Brodie, M.D., 21, Cavendish square, W., and 13, Fenchurch street, E.C. *Council*, 1880-2.

1862 Sharman, Malim, Surgeon to the Birmingham Free Hospital for Sick Children; 18, New Hall street, and Hollington, Bristol road, Birmingham.

O.F. Sharpin, Henry Wilson, F.R.C.S., Surgeon to the Bedford General Infirmary, Bedford. *Council*, 1871-3.

1869 Shaw, Henry Sissmore, 88, Upgate, Louth, Lincolnshire.

1882 Sheard, William Francis, L.R.C.P. Ed., Clyde House, Putney, S.W.

1867 Shepherd, Frederick, L.R.C.P. Ed., 33, King Henry's road, Primrose hill, N.W.

1859 Shipton, William Parker, Consulting Surgeon to the Devonshire Hospital; Buxton, Derbyshire.

1874 Sinclair, Alexander Doull, M.D., Visiting Physician to the Boston Lying-in Hospital; Member of the Board of Consulting Physicians and Surgeons, Boston City Hospital; 35, Newbury street, Boston, Massachusetts, U.S.

1876 Sirignano, Giosue, M.D., 24, Strada Banchi Nuovi, Napoli.

1874 Skinner, Stephen, M.B., Ferndale, Clevedon, Somerset.

1879 Slight, George. M.D., 25, Brewer street, Regent street.

Elected

1881 Sloan, Archibald, M.B., 56, Buccleugh street, Glasgow.

1876 Sloan, Samuel, M.D., C.M., 4, Newton terrace, Glasgow.

1861 Slyman, William Daniel, 26, Caversham road, Kentish Town, N.W. *Council*, 1881.

1859 Smiles, William, M.D., Surgeon to the House of Correction, Cold Bath Fields; 44, Bedford square, W.C. *Council*, 1879.

1867 Smith, Heywood, M.D., Physician to the Hospital for Women, Soho square, and Physician to the British Lying-in Hospital; 18, Harley street, Cavendish square, W. *Council*, 1872-5.

O.F. Smith, Protheroe, M.D., Physician to the Hospital for Women, Soho square; 42, Park street, Grosvenor square, W.

1875 Smith, Richard Thomas, M.D., Assistant-Physician to the Hospital for Women, Soho square; 53, Haverstock hill, N.W.

1882 Smith, Stephen Maberly, L.R.C.P. Ed., Geelong, Melbourne. [Per Henry M. Smith, 34, Southampton street, Covent Garden, W.C.]

1879 Smith, Wm. Hugh Montgomery, L.R.C.P. Ed., 24, London road, West Croydon, Surrey.

1859 Smith, William Johnson, M.D., Consulting Physician to the Weymouth Infirmary and Dispensary; Greenhill, Weymouth, Dorset. *Council*, 1869-71.

1876 Snell, Edmund George Carruthers, 131, Green street, Victoria park, E.

1882 Snell, George, L.R.C.P. Ed., The Asylum, Berbice, B. Guiana.

1882 Somerville, John R., M.D., Queen street, Chesterfield.

1869 Spaull, Barnard, F.R.C.S., Essex House, 29, Hammersmith road, Hammersmith, W.

1868 Spaull, Barnard E., Lynwood House, 47, Hammersmith road.

1876 Spencer, Lionel Dixon, M.D., Bengal Army [care of Messrs. Grindlay and Co., 55, Parliament street].

Elected

1882 Spooner, Frederick Henry, M.D., L.R.C.P. Lond., Howard House, Lower Clapton, E.

1862 Spry, G. Frederick Hume, M.D., Surgeon-Major 2nd Life Guards, Army and Navy Club, S.W.

1876 Spurgin, Herbert Branwhite, 49, Abington road, Northampton.

1876 Spurrell, Flaxman, L.R.C.P. Ed., Belvedere, Kent.

O.F. Squire, William, M.D., M.R.C.P., 6, Orchard street, Portman square, W. *Council*, 1866-68. *Vice-Pres.* 1876-77.

1877 Stephenson, William, M.D., Professor of Midwifery, University of Aberdeen; 261, Union Street, Aberdeen. *Council*, 1881-3.

1873 Stewart, James, M.D., 2, Skinner street, Whitby, Yorkshire.

1875* Stewart, William, L.R.C.P. Ed., Highfield House, Barnsley, Yorkshire.

1876 Stewart, William Edward, F.R.C.S. Ed., 16, Harley Street, W.

1879 Stilwell, Robert R., M.D., Beckenham, Kent.

1859 Stone, Joseph, M.D., 175, Upper Brook street, Manchester.

O.F. Stowers, Nowell, 125, Kennington park road, Kennington, S.E.

1866 Strange, William Heath, M.D., 2, Belsize avenue, Belsize park, N.W. *Council*, 1882-3.

1871 Sturges, Montague J., M.D., The Limes, Beckenham, Kent.

1880 Sutherland, Charles James, L.R.C.P. Ed., 16, Frederick street, South Shields, Durham.

1862 Sutton, Field Flowers, M.D., Balham hill, Clapham, S.W.

1859 Swayne, Joseph Griffiths, M.D., Physician-Accoucheur to the Bristol General Hospital; Harewood House, 74, Pembroke road, Clifton, Bristol. *Council*, 1860-61, *Vice-Pres.* 1862-64. *Hon. Loc. Sec.*

1879 Tait, Edward W., 54, Highbury park, N.

Elected

1871 TAIT, LAWSON, F.R.C.S., Surgeon to the Birmingham and Midland Hospital for Women; Consulting Surgeon to the West Bromwich Hospital; 7, Great Charles street, Birmingham.

1880 TAKAKI, KANAHEIRO, F.R.C.S., Imperial Naval Hospital, Tokio, Japan. *Hon. Loc. Sec.*

1871 TANNER, JOHN, M.D., F.L.S., Physician for Diseases of Women, to the Farringdon General Dispensary, and Obstetric Physician to the Lying-in Charity, Holborn; 102, Harley street, Cavendish square, W.

1859 TAPSON, ALFRED JOSEPH, M.B. Lond., 36, Gloucester gardens, Westbourne terrace, W. *Council*, 1862-64.

1863 TAPSON, JOSEPH ALFRED, Surgeon to the Clapham General Dispensary; 83, High street, Clapham, S.W.

1871 TAYLER, FRANCIS T., B.A. Lond., and M.B., Claremont villa, 224, Lewisham high road, S.E.

O.F. TAYLOE, EDWARD, South lodge, Clapham common, S.W. *Council*, 1882.

O.F. TAYLOR, CHARLES, M.D., Pine house, 216, Camberwell New road, S.E. *Council*, 1869-71.

1881 TAYLOR, F. PERLEY, F.R.C.S. Ed., Charlotte Town, Prince Edward Island, Canada.

1869 TAYLOR, JOHN, Earl's Colne, Halstead, Essex.

1871 TAYLOR, JOHN W., M.D., Rothsay House, Prince of Wales terrace, Scarborough.

1872 TEMPLE, JAMES ALGERNON, M.D., Professor of Obstetrics, Trinity College; Physician to Toronto General Hospital; Physician Accoucheur to the Burnside Lying-in-Hospital; 191, Simcoe street, Toronto. *Hon. Loc. Sec.*

1862 THANE, GEORGE DANCER, M.D., 15, Montague street, Russell square, W.C. *Council*, 1881.

1882 THOMAS, HUGH, Cambridge House, Small-heath, Birmingham.

1880 THOMPSON, HENRY, L.R.C.P. Lond., Assistant Surgeon, Hull General Infirmary, 16, Albion street, Hull.

Elected

1870 THOMPSON, JOHN ASHBURTON, M.D. (travelling). *Council*, 1877-8.

1867 THOMPSON, JOSEPH, L.R.C.P. Lond., 1, Oxford street, Nottingham.

1878 THOMSON, DAVID, M.D., 17, Market hill, Luton, Bedfordshire.

1874 THOMSON, WILLIAM SINCLAIR, M.D., 40, Ladbroke grove, Kensington park gardens, W.

1878 THOMSON, WILLIAM ARNOLD, F.R.C.S.I., The Limes, Ampthill, Beds.

1867 THORBURN, JOHN, M.D., M.R.C.P., Professor of Obstetric Medicine, Owen's College, Manchester; 62, King street, Manchester. *Council*, 1876-78. *Vice. Pres.* 1881-3.

1860 THORNE, GEORGE LEWORTHY, M.B., Lenham, near Maidstone, Kent.

1879 THORNTON, J. KNOWSLEY, M.B., C.M., Surgeon to the Samaritan Free Hospital for Women and Children, 22, Portman street, Portman square. *Council*, 1882-3.

1867 THORNTON, WILLIAM HENRY, Surgeon to the Royal National Hospital for Scrofula; Berkeley Lodge, Margate.

1874 TICEHURST, AUGUSTUS ROWLAND, Silchester House, Pevensey road, St. Leonard's-on-Sea.

1873 TICEHURST, CHARLES SAGE, Petersfield, Hants.

1860 TIFFEN, ROBERT, M.D., Wigton, Cumberland.

1866 TILLEY, SAMUEL, The Cedars, Cranford, Middlesex.

O.F. TILT, EDWARD JOHN, M.D., Consulting Physician-Accoucheur to the Farringdon General Dispensary; 27, Seymour street, Portman square, W. *Council*, 1867-68. *Vice-Pres.* 1869-70. *Treas.* 1871-2. *Pres.* 1873-4.

1879 TIVY, WILLIAM JAMES, F.R.C.S. Ed., 1, Tottenham place, Clifton, Bristol.

1872 TOLOTSCHINOFF, N., M.D., Kieff, Russia [*per* M. N. Orloff, 3, Bleisho road, Lavender hill, S.W.].

1869 TOMKINS, CHARLES P., L.K.Q.C.P.I., Beddington park, Croydon.

Elected

1870 Towne, Alexander, 364, Kingsland road, N.E.

1873 Trestrail, Henry Ernest, F.R.C.S., M.R.C.P. Ed., Walmer House, Victoria road, Aldershot.

1872 Tuchmann, Maro, M.D., Assistant Surgeon to the German Hospital; 148, Adelaide road, Haverstock hill, N.W.

1865 Turner, John Sidney, Surgeon to the Anerley Dispensary; Stanton House, Thicket road, Upper Norwood, Surrey.

1881 Tuthill, Phineas Barrett, M.D., Station Hospital, Gibraltar.

1861 Tweed, John James, Junr., F.R.C.S., 14, Upper Brook street, W.

1874 Underhill, Thomas, M.D., Summerfield, West Bromwich, Staffordshire.

1874 Venn, Albert John, M.D., Obstetric Physician, Metropolitan Free Hospital; Assistant Physician, Victoria Hospital for Sick Children; 8, Upper Brook street, Grosvenor square, W.

1880 Verdon, Walter, F.R.C.S., 410, Brixton road, S.W.

1873 Verley, Reginald Louis, F.R.C.P. Ed., Hanover Square Club, W.

1879 Wade, George Herbert, Ivy Lodge, Chislehurst, Kent.

1864 Wahltuch, Adolphe, M.D., 8, Acomb street, Greenheys, Manchester.

1860 Wales, Thomas Garneys, Downham Market, Norfolk.

1877 Walker, George, L.R.C.P., M.R.C.S., 12, Lingfield road, Wimbledon.

1866 Walker, Thomas James, M.D., Surgeon to the General Infirmary, Peterborough; 18, Westgate, Peterborough. *Hon. Loc. Sec. Council,* 1878-80.

1873 Walker, Thomas Osborne, Crick, near Rugby, Northamptonshire.

1870 Wallace, Frederick, 96, Cazenove road, Upper Clapton, N. *Council,* 1880-2.

1872 Wallace, John, M.D., Assistant-Physician to the Liverpool Lying-in Hospital; 1, Gambier terrace, Liverpool. *Hon. Loc. Sec. Council,* 1883.

Elected

1879* Walter, William, M.A., M.D., Surgeon to St. Mary's Hospital, and the Manchester and Salford Lying-in Hospital; 20, St. John street, Manchester.

1867 Walters, James Hopkins, Assistant Surgeon to the Royal Berkshire Hospital; 43, Castle street, Reading, Berks.

1873 Walters, John, M.B., Church street, Reigate, Surrey.

1859 Warden, Charles, M.D., Hon. Surgeon to the Birmingham Lying-in Hospital; 31, Newhall street, Birmingham.

1862 Watkins, Charles Stewart, 16, King William street, Strand, W.C.

1873 Way, John, M.D., 4, Eaton square, S.W.

1879 Weatherly, Lionel Alex., M.D., C.M. Aberd., Portishead, Somersetshire.

1867 Webb, Fred. E., 113, Maida vale, W.

O.F. Webb, Henry Speakman, Welwyn, Herts.

1872 Webster, Thomas, Malvern House, Redland, near Bristol.

1876 Weir, Archibald, M.D., St. Mungho's, Great Malvern.

1867 Weller, George, The Mall, Wanstead, Essex.

1876 Wells, Frank, M.D., late Professor of Obstetrics and the Diseases of Women and Children in the Cleveland Medical School; 12, West Cedar street, Boston, Massachusetts.

O.F. Wells, T. Spencer, F.R.C.S., Surgeon in Ordinary to H.M.'s Household; Consulting Surgeon to the Samaritan Free Hospital for Women and Children; 3, Upper Grosvenor street, W. *Council*, 1859. *Vice-Pres.* 1868-70. *Trustee.*

1859 Westmacott, John Guise, M.D., Medical Officer to the Paddington Provident Dispensary; Howley House, 39, Howley place, Paddington, W.

1876 Wharton, Henry Thornton, M.A. Oxford, 39, St. George's road, Kilburn, N.W.

1870 Wheatcroft, Samuel Hanson, L.R.C.P. Ed., Litcham, Swaffham, Norfolk.

1860 Wheeler, Daniel, Chelmsford, Essex.

Elected

1873 WHITE, FREDERICK BROAD, 15, Maida vale, W.

1882 WHOLEY, THOMAS, 2, Victoria park square, E.

1877 WIGMORE, WILLIAM, 130, Inverness terrace, Hyde park, W.

1867 WILBE, RICHARD HAYDOCK, M.D., York Lodge, 21, Finchley road, St. John's Wood, N.W.

1879 WILKIN, JOHN FREDERICK, M.D., Beckenham, Kent.

1876 WILKINSON, JOSEPH CRADOCK.

1871 WILKINSON, WILLIAM HENRY WHITEWAY, L.R.C.P. Ed., 268, Caledonian road, N.

1879 WILLANS, WILLIAM BLUNDELL, F.R.C.P. Ed., Much Hadham, Herts.

1879 WILLETT, CHARLES VERRALL, 8A, Oxford and Cambridge Mansions, W.

1861 WILLIAMS, ARTHUR WYNN, M.D., Physician to the Samaritan Free Hospital; 1, Montagu square, W. *Council*, 1871.

1864 WILLIAMS, EDWARD, M.D., Holt street House, Wrexham.

1872 WILLIAMS, JOHN, M.D., F.R.C.P., Assistant-Obstetric Physician to University College Hospital; 28, Harley street, Cavendish square, W. *Council*, 1875-76. *Hon. Sec.* 1877-9. *Vice-Pres.* 1880-2.

1881 WILLIS, JULIAN, M.R.C.P. Ed., 82, Sutherland gardens, Maida vale, W.

1873 WILSON, JOHN HENRY, L.K.Q.C.P. Ireland, Obstetric Physician to the Ladies' Charity and Lying-in Hospital; Kensington Lodge, Kensington, Liverpool.

1860 WILSON, ROBERT JAMES, F.R.C.P. Ed., 7, Warrior square, St. Leonard's-on-Sea, Sussex. *Hon. Loc. Sec. Vice-Pres.* 1878-80.

1866 WILTSHIRE, ALFRED, M.D., F.R.C.P., Joint Lecturer on Midwifery at, and Assistant-Obstetric Physician to, St. Mary's Hospital, and Physician for the Diseases of Women to the West London Hospital; 57, Wimpole street, Cavendish square, W. *Council*, 1870. *Hon. Lib.* 1871-3. *Hon. Sec.* 1874-6. *Vice-Pres.* 1877-9.

Elected

1877 WINTLE, HENRY, M.B., Kingsdown, Church road, Forest hill, S.E.

1880 WOODWARD, G. P. M., M.D.

O.F. WORSHIP, J. LUCAS, Manor House, Riverhead, Sevenoaks, Kent. *Council*, 1875-77. *Vice-Pres.* 1883.

1881 WORTHINGTON, GEORGE FINCH JENNINGS, M.K.Q.C.P., Sidcup, Chislehurst.

1876 WORTS, EDWIN, 6, Trinity street, Colchester.

1871 YARROW, GEORGE EUGENE, M.D., 87, Old street, E.C. *Council*, 1881-3.

1882 YOUNG, CHARLES GROVE, M.D., Colonial Hospital, George Town, Demerara, British Guiana.

1874 YOUNG, DAVID, M.D., 13, Via dei Fossi, Florence, Italy [care of Mr. Lewis, Gower Street].

1861 YOUNG, WILLIAM BUTLER, 10, Castle street, Reading, Berks.

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ADVERTISEMENT.

The Society is not as a body responsible for the facts and opinions which are advanced in the following papers and communications read, or for those contained in the abstracts of the discussions which have occurred, at the meetings during the Session.

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OBSTETRICAL SOCIETY

OF

LONDON.

SESSION 1882.

JANUARY 11TH, 1882.

J. MATTHEWS DUNCAN, M.D., F.R.S. Edin., President, in the Chair.

Present—45 Fellows and 4 visitors.

Books were presented by Dr. F. H. Champneys, Dr. Gustave Heinecken, Dr. A. Jacobi, Professor C. Pajot, the Societa Medico-Chirurgica in Modena, and the Medical and Chirurgical Faculty of the State of Maryland.

Archibald Sloan, M.B. (Glasgow), was declared admitted a Fellow of the Society.

The following were elected Fellows :—George John Eady, M.R.C.P. Edin. (Caterham) ; Joseph Farrar, L.R.C.P. Edin. (Morecambe) ; Francis Boynton Lee, F.R.C.P. Edin. (Heckmondwike) ; John E. Norman, M.R.C.S. (Esk, Durham) ; William Peacey, M.B. ; John Phillipps, B.A., M.B ; Amand Jules McConnel Routh, M.B., B.S. ; William Francis

Sheard, L.R.C.P. Edin.; Stephen Maberly Smith, M.R.C.S. (Geelong); and George Snell, M.R.C.S., Berbice, British Guiana.

FIBROUS TUMOUR OF THE UTERUS.

Dr. Carter showed a fibrous tumour of the uterus removed from a patient, aged 54, who had had seven children and three premature confinements. She had been regular till six years ago, when the catamenia became profuse, and increasingly so during the last two years, having severe floodings at intervals of six to seven weeks. On vaginal examination the pelvic cavity was filled by a hard, smooth, regular mass, so that the examining finger could not be passed any distance. The uterus was enlarged and, felt bimanually, rising about three inches above the pubic bone; pressure upon it moved the mass in the vagina freely. The patient having been anæsthetised, the hand was with some difficulty passed into the vagina and the mass was found continuous with, and an expansion of, the greatly enlarged posterior lip of the uterus; the anterior lip was thin and stretched over the rounded posterior lip; the sound passed two and three quarter inches. The wire of the écraseur was passed round the mass as high up as possible, and it was cut through and removed with some difficulty from the vagina; it weighed 21½ oz. There was little hæmorrhage, and the patient was put to bed. About three hours after, severe labour-like pains set in with profuse bleeding, which was stayed by plugging. On examination the next day a large mass was found filling the vagina; the patient was given ether, and the hand passed into the vagina found a large mass projecting from the posterior lip of the uterus; this was removed by the écraseur and weighed 10¼ oz., and was found to be uncovered by mucous membrane, being a portion of the interstitial part of the tumour extruded by uterine contraction. The vagina was frequently washed out with Condy's fluid. On the third day a mass was

again felt in the vagina, and on examination a polypoid growth was found widely dilating the os uteri, and on passing in the hand this was found attached to the posterior wall and fundus of the uterus. This piece was removed by the écraseur and weighed 3 oz. The abdominal swelling was now no longer felt, the sound passing three and a half inches. The weight of the whole mass removed was $34\frac{3}{4}$ oz. The patient had for a short time a good deal of discharge, but has otherwise done well.

PLACENTA OF A DOUBLE OVUM.

Dr. Outhwaite.—This specimen is that of the placenta of a double ovum, in which each fœtus evidently developed up to about the second or third month, when, from some cause or other, one of them perished and became, as we see here, mummified and squeezed up by the pressure of the other developing, no attempt, as far as I can learn from the history, having been made by the uterus to throw off the dead fœtus.

I was called to the patient on the 5th of November last, and found her suffering from rather severe hæmorrhage. She told me she was about six or seven months advanced in pregnancy and had had a slight fall the previous day. I examined, but could only feel a slightly patulous but fairly firm os uteri and the uterus enlarged above. I prescribed rest and opium, and during the next two days she seemed doing well, so that I hoped she would ultimately go on to full term.

On the morning of the 8th inst., however, I was called again, and found that labour had commenced and the shoulder presented. I turned and delivered, with some difficulty, a fœtus of between six and seven months, which died in about a quarter of an hour. As the placenta refused to come in spite of some strong pressure on the fundus, I passed my fingers into the vagina and delivered what I

thought at first a shred of calcareous and fibrous tissue, whether from placenta, or, as there was history of previous uterine trouble, I imagined it might be from the uterine wall. On getting away the placenta, I examined it carefully and found, as you see here, two sacs separated by a distinct septum, and that the mass of calcareous matter was this little mummified fœtus with its cord, which I unfortunately broke, but its insertion into the smaller sac is distinct.

I presume that this is one of those cases which our forefathers would have called super-fœtation, but the single placenta, I think, proves that it cannot be so.

Dr. Edis thought the case illustrated well a practical point as regards miscarriages. It not infrequently happened that a patient, when about four or five months advanced in pregnancy, had a smart burst of hæmorrhage from over-exertion, fright, accident, or other cause, and was supposed to have miscarried. A month or two later the patient applied for advice, as her abdomen was enlarging. On examination, pregnancy at the sixth or seventh month was detected, much to the patient's surprise. The explanation was apparent on delivery, a mummified fœtus, as in the case shown, being expelled, together with the fully developed fœtus, showing that a twin conception had originally occurred, one ovum being blighted at the time of the accident but not expelled until full term. In some instances the blighted ovum came away at the time of the accident.

FIBROID TUMOUR OF THE UTERUS.

Dr. Galabin showed for Mr. Alfred Gillingham a uterus at full term of pregnancy, having a very large, soft, fibroid tumour growing from the whole internal surface of its posterior and left wall. The patient was aged 29, and had had two previous children. The surgeon who attended her had informed her that she had an enlargement of the womb. She expected her confinement in October, but Mr. Gillingham was only sent for on January 1st, 1882. He found the os closed, apparently by membranes about half an inch from the os externum. The body of the child was felt by

external examination, and the head was above the pubes, and could not be reached from the vagina. Twin pregnancy was first suspected. Pains did not come on much until the 3rd, when a soft fluctuating swelling was found, pressing down upon the closed os. On scratching through this, supposing it to be the sac of a second fœtus, Mr. Gillingham found that his finger passed through successive annular apertures, whilst a softness remained beyond. He then called in Mr. Williams, F.R.C.S., of Brentford, who took the mass to be placenta prævia. After a futile attempt to lock the long forceps, the child was, with difficulty, extracted by version. The hand introduced into the uterus then found the swelling to be a tumour. The patient died suddenly and quietly from shock and hæmorrhage one hour after delivery.

SPONGES ASEPTIC IN THE VAGINA.

Dr. Matthews Duncan wished to call attention to a valuable means of keeping sponges, tents, instruments, &c., aseptic in the vagina. It had been suggested to him by Dr. Alexander Ogston, of Aberdeen, and he had used it with success in inducing premature labour and other operations. It consisted in anointing instruments, and in soaking sponges or lint with a cream of salicylic acid. This cream was the powdered acid moistened with glycerine or vaseline; about 1 of the acid to 4 or 5 of the vehicle.

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ADJOURNED DEBATE ON DR. GODSON'S PAPER ON "THE TREATMENT OF SPASMODIC DYSMENORRHŒA AND STERILITY BY DILATATION OF THE CERVICAL CANAL WITH GRADUATED METALLIC BOUGIES."

Dr. Rogers observed that there is an old proverb, "The longer one lives the more one learns." This he truly desired to act up to and to free himself from errors of judgment and any prejudices he may have fallen into. These thoughts entered his mind when looking at the instruments that Dr. Godson placed before the Society when reading his paper at the last meeting. Dr. Rogers added that it was over twenty-five years, while connected with the Farringdon General Dispensary, where Dr. Tilt was his colleague, and where Drs. Protheroe Smith, Turner, and Snow Beck had preceded him, that he commenced the use of "dilators" recommended to him by the late Sir James Simpson. Dr. Rogers had sent a patient, a married lady, suffering from dysmenorrhœa, to consult Sir James, as she was going to Edinburgh. She was benefited by dilatation, and Sir James wrote to Dr. Rogers to advise him to continue this treatment, which was followed, and she became pregnant and was cured. At Dr. Rogers' request Sir James Simpson had forwarded a set of his dilators; but while in married women pregnancy and cure often occurred, the results were not so satisfactory with unmarried women, who frequently relapsed into their former state when dilatation was left off. On being elected physician to the Samaritan Free Hospital for Women he continued the frequent use of these instruments with no better result, and so ceased to have confidence in their use, as did many others, Sir James Simpson and Dr. Marion Sims strongly advising hysterotomy in place of it. His colleagues, Drs. Savage and Routh, also adopted in preference the plan of incising the cervix uteri. During Dr. Rogers' subsequent professional

career he believed dilators had been universally discontinued in London, condemned to the limbo of forgotten and useless instruments, till about a year ago they were pointed out to him in the out-patient department of the Samaritan Hospital, introduced by Dr. Champneys. Dr. Rogers had a few years ago made a statement at one of the Society's meetings that he had also discontinued the use of the hysterotome, one of his hospital patients dying after the operation. He had previously met with cases of hæmorrhage which had, however, been always controlled. Having given up the cutting or incision of the cervix uteri, he turned his attention to the cure of dysmenorrhœa by the use of Dr. W. Williams's stem and shield, having had previous experience of the use of internal stems of all kinds and shapes without the shield. Dr. Rogers stated that he never had used any internal stem without first leeching or taking blood from the cervix by lancet, two if not three times, ere he introduced the stem, and he invariably kept his patients in bed at least some few days after. In private practice Dr. Rogers prefers one of Drs. Meadows' or Routh's stems of vulcanite, as india rubber soon decomposes. Only in one case had serious mischief arisen, as he has ordered his nurses to invariably remove the stem should pain and rise of temperature occur, and he requires his patients to come to him at once should pain come on while wearing them. Dr. Rogers trusted it would not be imagined that either he or his colleagues of the Samaritan Hospital would use operative measures until all proper constitutional treatment had been found to fail, as he knew that with every precaution grave danger might arise, which had once arisen to a colleague from simply passing a sound. On hearing Dr. Godson's paper he thought he would give a trial to the new and carefully graduated instruments used by Dr. Godson and the President. The patient on whom he recently had tried them bore the sound and No. 7 dilator pretty well, yet No. 8, with all gentleness and proper management, gave such torture that Dr. W. Williams, who was present, begged him to desist, and suppositories were used to mitigate her

suffering. She has since borne slow dilatation by sea tangle very well. Dr. Thomas, of New York, says that dilators should never be used unless the patient is placed under ether or chloroform. Dr. Godson admits that in one case his patient suffered greatly, in another he failed in the cure of his patient until he used the stem and shield. Dr. Rogers feels convinced that in the treatment of dysmenorrhœa in unmarried women dilators cannot be relied on, yet he would ask their President to give the Society the benefit of his experience and use with the instruments brought before the Society by Dr. Godson.

Dr. Braxton Hicks said that much difficulty in discussing the paper arose from the author's confining the cases to spasmodic dysmenorrhœa, whereas Dr. Hicks confessed to a difficulty he had always felt in distinguishing the purely spasmodic, because we may be able during the menstrual interval to pass a sound readily up to the fundus, and yet the menses may be obstructed at the time of their occurrence, for instance, from a menorrhagic coagulum, from an excess of fibrin in the blood, or from an extra tumidity of the mucous membrane. Dr. Hicks supposed that the cases described by the author were not these, but one purely spasmodic. But how often were these conditions mixed in persons over-sensitive to reflex irritation, so that we have a compound condition; and when we look to the remedy employed we find them essentially dilators, as they are graduated in size; and hence we may fairly conclude that the cases where they were of use were more or less at the menstrual period cases of obstruction, unless it were argued that the mere passage of the metal tended to harden the mucous surface, and so render the uterus less susceptible and spasmodic. If then the cases were in a measure those of obstruction, then they were out of the discussion, which was limited to those of pure spasm.

Dr. Wynn Williams remarked that Dr. Godson's paper was a very interesting one, but thought that most of the previous speakers had not quite understood its purport. He was under the impression that the author of the paper

intended to treat only of cases of spasmodic obstruction of the uterus and not of mechanical obstructions, such as constriction of the passage, conical os, or flexions. In the class of cases alluded to by the author his method of treatment would appear to have been very successful, but not more so than would have followed the introduction and wearing of a vulcanite stem and shield, and with, he believed, far less suffering to the patient; indeed Dr. Godson stated that in one of the cases he was obliged to have recourse to this method of treatment. The impression made upon his mind in the case mentioned by his colleague, Dr. Rogers, was anything but favorable to this method of treatment; in fact so much did the patient appear to suffer that he actually entreated Dr. Rogers to desist. The treatment he (Dr. Wynn Williams) followed in such cases was that already fully described by Dr. Routh and Dr. Rogers, with this exception, that he did not invariably have recourse to leeching, &c. It was only when there was congestion or great tenderness that he had recourse to the abstraction of blood. If there existed any difficulty in the insertion of the stem, he first dilated the passage by a piece of sea tangle, not that prepared by the instrument makers, but a piece of dried seaweed, first introduced by Dr. Routh, which could readily be made to assume any shape that was thought desirable, and with a knife pared down to the requisite size; round this some cotton wool is rolled and saturated with some antiseptic fluid, such as iodine and glycerine, or carbolic acid and glycerine, though he preferred the former; doubtless salicylic acid and vaseline, as mentioned by the President, would answer the same purpose. The sea tangle thus prepared is inserted as far as it will go, and by means of a plug of cotton wool is kept *in sitû* until the following day, when on its withdrawal the stem and shield is readily introduced. The patient is advised to keep quiet for two or three days, when she is allowed to do pretty much what she likes. In nearly 200 cases which he had treated with this light movable stem he had never met with a case where any serious mischief had arisen from the use of it; in fact,

nothing that has not been remedied by the removal of the stem and confining the patient to bed for a few days, when generally the stem can be reintroduced and worn with comfort. He hoped he might be allowed to make a short digression, as he had lately seen it stated by an eminent gynæcologist that a flexed uterus always remained flexed. He could not too strongly contradict this assertion, especially in cases of anteflexion, as he had again and again examined patients several years after the removal of the stem and shield with the sound, and found the uterine canal perfectly straight. With regard to the incision of the os uteri, as alluded to by Dr. Barnes, which is sometimes undoubtedly necessary, he would advise its being done with a fine knife, not with the scissors, a very slight division being all that is required, and into the incision, to prevent it again uniting, the point of a stick of nitrate of silver may be introduced. The author of the paper would seem to doubt the fact of permanent contraction. He himself had no doubt that such permanent contraction does occasionally exist, and this was clearly demonstrated at this Society by his colleague, Dr. Bantock, who exhibited a sponge-tent so indented at one part that it would appear as if a string had been tied firmly round it, Dr. Bantock having had great difficulty in removing the tent, owing to this constriction.

Dr. Savage said the instrumentalists deceived themselves lamentably. What they contended for was that their inventions cured in some cases, relieved in most, and never did harm, whereas there was abundant evidence that they never cured, relieved only so long as they were used, and too often did much harm, even to compromising the life of their patients. An eminent provincial surgeon had only lately brought to the notice of the profession fourteen morbid specimens. He said they were the uterine appendages, some of the tubes containing half a pint of matter. It was also alleged that these unfortunate subjects had been the *round* of the profession, and had been submitted to all sorts of instrumental treatment. They did not begin by having half a pint of matter in their Fallopian tubes.

Was it not clear that the original disease if not produced by instrumentation had been greatly aggravated by it? and why call gastrotomy laparotomy, which no one could attempt without speedily finding himself in the hands of the coroner? and why salpinx, when the tube was not like it? Instrumentalists spoke doubtlessly in good faith, but could any one who reckoned his cases by the hundred be sure of their ultimate fate? Dr. Savage's opinions were at one with those of Dr. Herman and Dr. Hicks. You meet with every sort of uterine deviation and contraction without suffering, and the converse, and as to Dr. Herman's diagnosis so much cavilled at, it was more likely to be right than that by instrumentation. The uterus readily took the form and direction of the instrument introduced into it; by losing sight of the anatomy of the broad ligament, the side attachments of which were behind the cross diameter of the pelvis, instrumentalists ceased to comprehend the *rationale* of their surgical treatment. He would undertake to manufacture to order any uterine deviation by the help of this instrumentation now in vogue. He deprecated the fast growing tendency to interfere surgically with every complaint referable to the uterine system. He agreed entirely with foregoing speakers that instrumental interference should never be resorted to till after general treatment, so successful in former times, had been fairly tried.

Dr. Priestley could not quite agree with all that had been said by Dr. Savage, but he thought one of the disadvantages of discussions like the present one was that those of limited experience were apt to conclude that all cases of dysmenorrhœa required local treatment, and to regard all other methods as comparatively useless, or at least temporising in character. An impetus had certainly been given to local treatment by the theory which had gained considerable currency, that whenever there was painful menstruation there was obstruction to the catamenial flow. This dictum was assuredly not borne out by pathological facts, for he would appeal to the President and others if they had not

seen instances of severe dysmenorrhœa in women who had borne children. It was true that, in the majority of cases, parturition was a cure for previously existing dysmenorrhœa, but it frequently happened that the catamenial periods were very painful in women whose genital canals had been fully expanded by parturition. Then he had seen great suffering at periods corresponding to the menstrual epochs in cases where no catamenia were formed in the uterus, and there was absolute amenorrhœa. He might go further and say he had seen suffering, amounting almost to agony, in a woman who had a uterus so rudimentary that it was only represented by a small portion of hardened tissue like a filbert, and where there could be no secretion whatever. These examples proved that there were other causes for painful menstruation than obstruction, and it could not be too strongly insisted upon that there was a large class of cases, more especially among unmarried girls, which could be successfully treated by constitutional remedies, and in which local treatment was absolutely unnecessary. Cases of dysmenorrhœa in married women range themselves in a different category, for here the presence of sterility was often combined with painful menstruation, and vaginal examinations might be had recourse to with less hesitation. Unless he had misapprehended Dr. Godson, he understood him to propose to drop the term "obstructive dysmenorrhœa," and regard all such cases as due to spasm of the muscular tissue. Pathological considerations would not permit him to assent to this, although he believed there were cases of spasmodic dysmenorrhœa combined with sterility, as described by Dr. Godson. But there were undoubtedly not infrequent instances of genuine organic narrowing of the cervical canal and some congenital ones, where the os was so small that it was difficult to pass the smallest probe; others where the inflammatory process had brought about atresia; and Dr. Priestley believed that in the elongated hypertrophy of the cervix there was sometimes a constriction as well as an increased length of the cervical canal. In treating cases of dysmenorrhœa with sterility, he considered

it all important to make a correct diagnosis as to whether the symptoms were due to ovarian or inflammatory causes, or to spasm or organic stricture. To a lack of accuracy in this respect might be due a failure to cure, and an apparent retrogression in treatment, as dilatation was regarded by Dr. Barnes. If local treatment was regarded as indispensable, he thought for some cases dilating was the proper course; in others division of the cervix was more useful. Where, for instance, there was induration of tissue, a tendency to local hyperæmia or inflammatory action, or where there was hypertrophic elongation of the cervix, incision might offer the best chance of cure, but when there was a choice between dilatation and incision he greatly preferred dilatation. Neither were free from a certain amount of risk. As remarked early in the discussion, the mere passing of the sound might be followed by untoward consequences, but the cutting operation was, he believed, much the most hazardous of the two. He had probably seen more of the operation of incision than most of those present; and he had come to regard it as one of those surgical operations which should never be undertaken without serious consideration. Even the small incisions which had been pleaded for were not devoid of danger, for Mr. Spencer Wells had lost a patient in whom the operation was of the slightest, and no one could foresee the extent of the peril. Dr. Priestley could not quite understand the immunity from danger claimed by Drs. Routh and Wynn Williams for the use of intra-uterine stems. He did not doubt the sincerity of their statements, but it seemed strange if the passage of the sound was sometimes dangerous that the permanent retention of a stem *in utero* should not also occasionally give rise to serious symptoms. This subject required further inquiry. The sum of what he had endeavoured to say in taking part in the debate was that in treating cases of dysmenorrhœa, with or without sterility, we should not be led away by one idea, not, for instance, look upon every case as due to displacement or to spasm, or to inflammation or obstruction, but, taking a scientific view of the case, we ought to look all round it,

endeavour to determine its true pathological import, and then treat such special case on its own particular merits.

Dr. Galabin thought that the facts brought forward in the paper were very valuable, but in one respect he should be inclined to draw from them an opposite conclusion to that of the author, who inferred that there was never any element of obstruction in the so-called spasmodic dysmenorrhœa. The most remarkable point about the cases was the very large proportion of them in which not only dysmenorrhœa, but sterility, seemed to have been cured. What was the mechanism of this cure? He had himself had cases in which, after years of sterile marriage, pregnancy followed within a month after a single use of metallic bougies or Priestley's dilator. Dr. Barnes had related cures of sterility by moderate incisions of the external os, and similar experience was not uncommon. The last method could have no influence on any undue sensitiveness near the internal os, and the only common element in the three modes of treatment seemed to be that they all made the access through the cervical canal more free. The natural inference was that a canal, although large enough to let the sound pass easily, might yet practically not give free enough ingress to the semen. He thought it might be concluded *à fortiori* that a similar canal might not give perfectly free egress to the product of menstruation, which was not only fluid blood, but contained *débris*, if not shreds, of mucous membrane, and often clots. Egress of menstrual product was not prevented, as ingress of semen appeared to be, because it had the contractile power of the uterus behind it, but this very circumstance was enough to account for spasmodic pains in a sensitive subject. The only other explanation suggested of sterility in these cases was that of the author, that spasm of the uterus ejected the semen. But the painful spasm occurred only at the menstrual period, when coitus did not usually take place, and there was no evidence whatever of spasm at any other time. That obstructive dysmenorrhœa did exist he thought there was the clearest clinical proof which the case admitted,

from the fact that not unfrequently in dysmenorrhœa there was a uniform and *scanty* menstrual flow, but yet accompanied by clots, as distinct from shreds of membrane. Clotting was normally prevented by admixture with vaginal mucus; and if it occurred without the quantity of blood being at any time excessive, he knew of no other explanation but that the blood was detained within the uterus long enough to allow clots to be formed. He thought that the author had paid a just tribute to the influence of the President, since his coming to London, in giving an impulse to the mechanical treatment of dysmenorrhœa, although he repudiated all mechanical theories in its causation. His own attention had been specially drawn to the use of metallic bougies somewhat earlier by the writings of the late Dr. Peaslee, who showed by post-mortem evidence that in parous women, who were neither sterile nor suffered from dysmenorrhœa, both internal and external os had generally about twice the area which they had in the nulliparous. This appeared to give rational ground for a belief that moderate dilatation might sometimes be advantageous in nulliparæ, since parous women notoriously menstruated more easily, if no inflammatory sequel of parturition existed, than the nulliparous. He preferred to have the bougies somewhat conical, in accordance with the usual relative sizes of external and internal os, instead of cylindrical, like those shown by the author.

Dr. Murray spoke in favour of the intra-uterine stem. The cases of dysmenorrhœa and sterility so treated by him had been successful. And he thought the stem pessary much more likely to effect a cure in the so-called spasmodic dysmenorrhœa. He quite agreed with Dr. Braxton Hicks's views on this subject, and also with Dr. Priestley, that a great deal too much interference often took place.

Dr. Aveling said that dilatation for the cure of dysmenorrhœa might be effected in four ways: 1. By passive or what had also been called physiological dilatation by means of stems. 2. By wedging the canal open with sounds, bougies, or plugs. 3. By direct dilatation, instruments or tents being

passed into the canal and expanded or allowed to expand. 4. By incision. Each of these methods, he thought, might be used satisfactorily, but no one should be used to the exclusion of the other.

The PRESIDENT regretted that time was not available for him to enter on the subject of Dr. Godson's paper at such length as he desired, but he would make some statements before the discussion was closed. He regarded the mechanical difficulties of, or obstruction to, semen by the cervical passage as made far more important than they really were, and especially he noted the error of regarding dimensions of cervical passage as being stable, constant, or permanent. He had no doubt they varied, and almost certainly were enlarged during the spasm of coitus. Were these conditions as important as represented, and were they stable or constant, impregnation could never occur, for the passage of the inner end of the tube was closed altogether, not a bristle could be passed. This was enough to show that it was wrong to consider size of passage without further investigation as to changes of the size. The small tube had to be permeated by the semen as well as the cervix. He was astonished to find a general consensus that sterility was not only curable but frequently cured, and in many conditions of abnormality or disease. Many eminent men doubted the reality of so-called cures of sterility, and regarded all such as mere lucky coincidences. He himself had no doubt that most cases were not cures, but mere lucky coincidences. It was only lately that he had become quite convinced that sterility was sometimes cured, and, while he often heard of cases under many conditions, as flexion, stenosis, stricture, &c., he was not convinced of the reality of any cures except in those cases of combined dysmenorrhœa and sterility discussed in Dr. Godson's paper. One of the most important characters of that paper was that it gave us some well-detailed examples of cure, which could scarcely be doubted as cures. Yet the subject was in a state demanding detailed evidence on the reality of the cures, and it would be a valuable piece of work for any one to do to produce such evi-

dence. The subject was a comprehensive and difficult one, for the causes of fertility and sterility in the male and female would have all to be taken into the account. One evidence in favour of the reality of the cures was that all were done by substantially the same method, namely, dilatation of the cervix. To produce this dilatation there were many plans, more or less dangerous, and about them he held a well-known opinion in favour of that recommended in the paper just read.

In reply, Dr. Godson said that if Dr. Heywood Smith would again look at his dilators he would see that they were not curved any more than an ordinary uterine sound. In his remarks he had evidently referred to those employed by Dr. Matthews Duncan, which had been also passed round. It seemed almost doubtless that the patient upon whom Dr. Rogers had passed the dilators was suffering from *congestive* dysmenorrhœa, and was not a fit subject for the treatment. It was most important that a proper diagnosis should be first arrived at, and that dilatation should be only practised where there was absence of congestion, otherwise there was great fear of inflammatory mischief ensuing, and upon this distinction probably depended the success or the failure of the treatment by bougies. Dr. Godson's paper treated only of spasmodic dysmenorrhœa *associated with sterility*, and therefore Dr. Priestley's remarks with respect to the treatment of young girls was outside the scope of the paper, but he entirely accorded with them.

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ANNUAL GENERAL MEETING,

FEBRUARY 1st, 1882.

J. Matthews Duncan, M.D., F.R.S. Ed., President, in the Chair.

Present—62 Fellows and 4 visitors.

The President declared the Ballot open for one hour and nominated George Eugene Yarrow, M.D., and T. Wood Hill as scrutineers.

Books were presented by Dr. Fancourt Barnes, Dr. James R. Chadwick, Dr. Charles Milsom, Dr. F. L. Neugebauer, and the Incorporated Law Society.

Amand Jules McConnel Routh, M.B., B.S., was admitted a Fellow of the Society, and the following were declared admitted:—Joseph Farrar, L.R.C.P. Ed. (Morecambe); George John Eady, M.R.C.P. Ed. (Caterham Valley); William Francis Sheard, L.R.C.P. Ed. (Putney).

The following were proposed for election:—Herbert Blott, M.R.C.S. Eng. (London); Arthur Cecil Buller, M.R.C.S. Eng. (St. Bartholomew's Hospital); James Robertson Crease, F.R.C.S. Ed. (South Shields); Upendra Krishna Dutt, L.R.C.P. Ed. (Dublin); Francis J. R. Russell, L.K.Q.C.P. (London); Hugh Thomas, M.R.C.S. Eng. (Birmingham); David Maurice Serjeant, M.D. (Camberwell).

DOUBTFUL CASE OF DOUBLE VAGINA.

Dr. Galabin showed a microscopic section of the septum separating the vagina from a peculiar abnormal passage in a girl æt. 17. She was first taken into a surgical ward at Guy's Hospital on account of a swelling protruding at the vulva, and complained that, after she had passed water, some urine continued to dribble away. Dr. Galabin was asked to examine the patient, and found that the point of a catheter could apparently be passed into the swelling through the urethra. He thought that the swelling consisted of a cystic dilatation of the neck of the bladder and part of the urethra, and recommended that it should be cut away and the edges brought together. His surgical colleague declined to operate for fear that a permanent fistula might remain, and handed over the patient to Dr. Galabin to treat by a pessary. Finding pessaries useless, Dr. Galabin himself subsequently undertook the operation. When the patient was under anæsthesia it was found that there was a minute opening in the thinned posterior wall of the swelling, toward the vagina, from which clear fluid escaped. On cutting away the prominent part of the swelling, however, it was found that the bladder had not been opened, but the expanded part of a cylindrical passage, separated from the bladder by a very thin distensible septum, which had been depressed by the catheter when it had appeared to enter the swelling. The passage ended above on the level of the os uteri, and to the left of it, in a small funnel-shaped opening, into which a probe could be passed for half an inch only. It lay in front of the left side of the vagina, and was precisely bounded on the right by the anterior median raphe of that canal. The section now shown of the septum between the two passages proved that the abnormal canal had a squamous epithelium like that of the vagina, only thinner, and provided with papillæ. It could not, therefore, be the cavity of an abscess or pseudo-cyst. There remained, however, some doubt about

its being a second vagina, since the main vagina appeared complete, and the other passage lay in front of it, not at one side. The clear fluid which escaped from the passage showed no sign of urinary constituents on chemical examination. The lower part of the septum between the two passages was cut away, but the upper part of the passage remained precisely as at first.

Dr. Carter had on several occasions met with cysts in the anterior vaginal wall, though none so extended as that described by Dr. Galabin. The patients sought advice for something which came down in the passage. The cysts were opened and contained a more or less thick glairy mucoid fluid.

Dr. Galabin did not think that the passage in his case could have been a vaginal cyst, since it was cylindrical, and not globular, and the contained fluid was not mucoid.

RETENTION OF MENSTRUAL FLUID IN ONE HALF OF A DOUBLE UTERUS.

By Alfred L. Galabin, M.D., F.R.C.P.

Miss P—, æt. 15, was brought by her mother on March 28th, 1881, to consult me on account of severe dysmenorrhœa. Menstruation had commenced a year previously, and was fairly regular, but the periods were often rather over time. They lasted from three to seven days, and were generally rather profuse, from seven to fifteen diapers being used at each period. No clots nor pieces of membrane were passed. The pain commenced a day or two before the flow, but was much more severe during its continuance. It was central, and felt both in hypogastrium and back. It was intermittent, and was described as being agonising in severity, so that the patient was completely laid up during the periods,

and nausea and retching, with various nervous or hysterical symptoms, were produced. No enlargement of abdomen had been noticed. For the last few months some pain had been felt during the intermenstrual intervals, but not severe.

The symptoms thus appeared to be characteristic of what has been called spasmodic or neuralgic dysmenorrhœa, and has been held by some to be purely neurotic in character. It is worthy of note that, in this instance, it was based upon what proved to be organic obstruction, although it showed the agonising intensity and association with reflex nervous symptoms which some have said to be characteristic of the neurotic form of dysmenorrhœa, and to be absent where obstruction really exists.

The patient had been for a short time under the care of Dr. Stirling, of Grange Road. From the character of the symptoms Dr. Stirling very naturally had not, so far, thought it necessary to insist on a vaginal examination in the case of a young girl, who was evidently of a highly nervous and hyperæsthetic temperament. I should probably have taken the same view, but that, as a specialist, I was reluctant to stop short of a full investigation of the case, although, from the history, I had no suspicion of any retention of menses.

Examination was exceedingly difficult on account of the patient's nervousness. On bimanual examination a firm globular swelling was felt through the anterior vaginal wall, apparently about the size of the uterus at between three and four months' pregnancy. No elasticity or fluctuation was detected in it. The os uteri was difficult to discover, and was displaced backwards, and appeared to be somewhat flattened antero-posteriorly. There was no vaginal cervix to be felt, the firm mass in front coming down to the level of the os. The hyperæsthesia of the patient rendered it impossible to make any attempt to use the sound.

The diagnosis appeared to lie between three possible conditions: 1. Fibroid tumour. 2. Obstruction of the

cervix so great as to cause distension of the uterus by menstrual fluid, although a part of the flow escaped. 3. Retention of menses in one half of a double uterus. I thought a fibroid tumour improbable, although the swelling seemed quite hard enough to be of that nature, first, because of the patient's youth, and, secondly, because the symptoms had commenced with puberty. I also felt certain that if there were any channel for the escape of menstrual fluid at all the uterus would not allow itself to become distended, but would become hypertrophied sufficiently to overcome the obstruction. I therefore concluded that there was probably retention of menstrual fluid in one half of a double uterus, notwithstanding that the swelling appeared to be central.

It was agreed with Dr. Stirling that we should meet at the patient's house, and examine her under anæsthesia with the aid of the sound, and that, if the diagnosis appeared to be confirmed, we should proceed to evacuate the uterus. An anæsthetic having been administered, on April 8th, it was found that the sound passed easily, going towards the right side and to the normal length. The os also appeared to be displaced somewhat towards the right. There appeared, therefore, to be additional reason for thinking that one half of the uterus was occluded, and that the occluded half was the left. A puncture was therefore made with a small trocar to the left of the os, and, after the trocar had penetrated a very thick wall, the usual treacly fluid, seen in cases of retained menses, began to pass through the canula. The opening was then enlarged by director and scalpel until it would easily admit the finger. Rather more than ten ounces of treacly fluid escaped.

Notwithstanding the advocacy of Dr. Emmet for the plan of immediately washing out the uterus with antiseptics in such a case, I decided not to use any immediate injection for fear of exciting spasmodic contraction, but to let the uterus empty itself spontaneously for twelve hours, and then to commence the injections. If the difficulty in washing out the cavity, which afterwards arose, had been fore-

seen, it would doubtless have been thought better to wash it out at once.

The patient expressed herself as relieved after the operation, but owing to her resistance and extreme hyperæsthesia Dr. Stirling found it impossible to syringe out the evacuated cavity, and only the vagina could be syringed. On the second day temperature was 99·2°, pulse 104; on the third, temperature 99°, pulse 104. Sanguineous discharge continued free up to 3 p.m. on the third day, when it became much less. On the fourth day at noon discharge had almost stopped, the little discharge there was had become offensive, and the patient had pain over the uterus. Temperature was 104°, pulse 131 at noon; and at 7 p.m. temperature was 104·6°, pulse 136.

Dr. Stirling urged that an anæsthetic should be given to wash out the uterus. The patient's mother, however, and her friends very foolishly refused to permit it. The febrile symptoms continued, but the consent of the friends to the administration of an anæsthetic could not be obtained until the seventh day, when I was asked to see the patient again. I found that she had a temperature of 104·5°, and pulse of 140, with tenderness over the uterus, but no evidence of peritonitis nor distension of the abdomen. Her resistance was so great that I could not even make a vaginal examination without an anæsthetic, although she allowed her mother to syringe the vagina. An anæsthetic having been given, it was found that a director could be passed easily through the opening into the left half of the uterus. The opening was again enlarged with a scalpel, and the cavity washed out with carbolic solution, 1 in 40. No more blood escaped, but some semi-purulent material, rather offensive. The finger was passed in and some flaky matter removed from the walls of the cavity. This cavity was found to have contracted up, and was now bifurcated; one horn, about an inch and a half long, parallel to the right half of the uterus; the other, somewhat shorter, extending outwards and upwards towards the left.

Two hours and a half after the operation temperature was

104·6°, pulse 136. The next day she seemed much improved, and temperature had fallen to 102·3°, pulse 100. Ninth day, temp. 102·4°, pulse 96. Tenth day, temp. 102·2°, pulse 100. Eleventh day, temp. 103°, pulse 104.

Up to this time the patient had appeared to be going on favorably since the last operation, and Mr. Lloyd, who had charge of the case in the absence for a few days of Dr. Stirling, felt little doubt of her ultimate recovery. There had been no return of offensive discharge, but it had still proved impossible to do more than syringe the vagina.

Early on the morning of the twelfth day the patient suddenly began to complain of severe pain in the uterine region which gradually spread upwards, and from this time she vomited everything that she took. By the afternoon she was in a state of collapse; limbs cold, eyes glazed, and face clammy, and she died at 8 p.m. The febrile symptoms had doubtless pointed to some septic mischief from the third day onward, but this sudden onset of symptoms of peritonitis and rapid death would seem to indicate the rupture either of a dilated Fallopian tube or of some abscess in its vicinity. No autopsy was obtained.

The unfortunate result of the case would seem to have been due, in the first place, to the obstacles to treatment caused by excessive hyperæsthesia, and, in the second place, to the refusal of the friends to permit the use of an anæsthetic when it was considered essential in order to overcome this difficulty.

I am much indebted to Dr. Stirling for his notes of the course of the case.

Dr. Edis suggested that much care was requisite in employing carbolic acid injections in any cases where free return of the fluid was at all doubtful. He had seen instances where marked toxic symptoms had been produced from retention of the carbolised water. In one case where an abscess in the neighbourhood of the bowel had burst per rectum, a solution of carbolic acid, 1 in 40, had been injected, and the patient was with difficulty recovered, symptoms of collapse, with cold clammy perspirations,

extreme pallor, partial unconsciousness, and other urgent indications being manifested.

Dr. Graily Hewitt's experience had led him to the conclusion that it was safer, in performing the operation of evacuation of retained menstrual fluid, to make a small opening and to allow of gradual escape of the fluid. This allowed of the gradual contraction of the walls of the cavity which were not seldom weak and thin. He considered it not improbable that if allowed to discharge itself too quickly a suction influence might afterwards be exercised and septic material drawn into the cavity.

Dr. Gervis said he thought Dr. Galabin had probably himself pointed out what would have been the most useful addition to the conduct of the case, the washing out with antiseptic fluid the uterine cavity. He agreed with Dr. Hewitt as to the importance of a moderately slow evacuation of retained menstrual fluid, although not for the same reason, considering the risk of septic absorption arose less from the introduction of septic material from without through any "uterine suction" than from the decomposition of unremoved fluid. Recent experience of the evacuation of retained menstrual fluid with antiseptic precautions had entirely satisfied him of their great value.

Dr. Wynn Williams, after offering his thanks to Dr. Galabin for bringing forward this case, which was a particularly interesting one, elicited, moreover, how differently different medical men treated such cases. Dr. Graily Hewitt had stated that he always made a very slight opening and allowed the returned menstrual fluid to drain out very slowly, whereas he made a very free opening so as to get rid of all or as much as possible of the menstrual fluid at once. Dr. Wynn Williams had only two observations to make upon the paper. The first, that he would have syringed out the uterus with a solution of iodine, which he believed to be the safest and, in his opinion, the best antiseptic we possess, as septic poison cannot exist in the presence of iodine, it is immediately converted into carbon. The second remark is that he considers it a very dangerous proceeding to make a second or fresh incision when any septic poison is present, as it is almost certain to be taken up into the system. He would not say that the patient would not have died had this fresh incision not been made, nevertheless, it is just possible she might not.

Dr. Champneys said that he had seen a case of retained menstrual fluid in one half of a double uterus under the care of Dr. Winckel, of Dresden. In this case slow evacuation did not prevent a fatal result, which was caused by the retraction of the uterus from an adhesion, which tore a hole in the thin uterine wall. Death resulted from septic peritonitis.

Dr. Cleveland was somewhat surprised at the fear expressed by Dr. Edis in the use of carbolic acid injections. He had used them in chronic inflammation of the bladder attended with muco-purulent discharge, with permanent good results and no untoward consequences. The pure form of acid, known as absolute phenol, procured at Squires's, in the proportion of 1 to 50 or 60 of water, was employed.

Dr. Carter agreed with the remarks of Dr. Edis as to the dangerous results which have at times followed the injection of a solution of carbolic acid into the uterus. He related the case of a patient who was for a time in a very critical state after washing out the uterus the third day after a miscarriage with a solution of the strength of 1 in 80.

Dr. Malins said that he had heard the paper of Dr. Galabin with much pleasure and interest. It seemed to him that there were two circumstances to note in connection with it. The first was the difficulty in making an exact diagnosis in the absence of any post-mortem examination. The condition of distension of one half of the uterus must be very rare, while the symptoms and physical state in this case did not seem to be inconsistent with either an anterior hæmatocele or thrombus in the cellular tissue in front of the cervix. The hardening of the outer layers of such a collection, in the manner known sometimes to occur, would give rise to thickening and difficulty in passing a knife through not unlike that of cutting through a firm muscular substance, whereas it is probable that had it been the uterine wall some softening of the tissue would have been the result from such a collection, for there was hardly time for inflammatory hardness to have taken place. The next point of importance was the necessity of perfect drainage and disinfection. He had met with similar cases where considerable trouble had occurred in this respect, but which had been overcome by using a winged catheter with the end cut off, or one of Davey's anchors. He had also had a grooved director made to run along the aspirator needle, which had answered a valuable purpose in being a safe guide to the inside of the sac. In similar cases he was accustomed to wash out the interior of the cavity with the same needle by which the puncture was made, using the aspirator for doing so. In these, as in puerperal cases, he had found the greatest service from the use of tincture of iodine, and thought that nothing answered more safely or effectually.

Dr. Matthews Duncan would only remark that he, in cases of retained menses, made a free opening and allowed the fluid to drain away, using no injection of any kind. He had, in a considerable experience, had no fatal case or evil result, and he believed he had observed injurious consequences of the injection of plain warm water in cases which he had witnessed.

Dr. Galabin said that he thought the method of gradual evacuation of retained fluid was preferable when the quantity was large, but not when it was small or moderate. He did not think that the unfavorable result in his case could be attributed to the washing out of the uterus with carbolic solution or even to the second incision, because a marked improvement followed these proceedings, and continued for more than four days, while the patient's condition had already appeared extremely critical before the second operation. He did not believe that the case could have been one of hæmatocele, because the tumour had been perfectly movable in the first instance, and he did not think that the contents of a hæmatocele ever so exactly simulated the uniform treacly fluid seen in cases of retained menses.

Annual Meeting.

The audited balance-sheet of the Treasurer, Dr. Gervis, was then read.

It was moved by Dr. Murray, seconded by Dr. Potter, and carried unanimously, "That the audited report of the Treasurer be received and adopted."

The Report of the Hon. Librarian was then read, and its adoption was moved by Dr. John Williams, seconded by Dr. Carter, and carried unanimously.

Report of the Honorary Librarian.

In presenting to the Society the customary report upon the state of its Library, I am happy to be able to say that it has been as useful as heretofore to the Fellows of the Society, and that it continues to expand in correspondence with the increasing amount of Obstetrical and Gynæcological Literature. The Library Committee has endeavoured by recommending to the Council the purchase of each new work of importance that has appeared during the year and has not been presented to the Society, to make the Library

BALANCE-SHEET OF THE OBSTETRICAL SOCIETY OF LONDON.

(Abstract of the Receipts and Expenditure for the year ending December 31st, 1881.)

1881. RECEIPTS.	£	s.	d.
To balance in hand from balance-sheet for 1880	154	9	4
(1) Subscriptions received during 1881: 644 at £1 1s. — £676 4 0			
(2) Composition Fee — 10 10 0			
	686	14	0
(3) Midwifery Examination Fees	42	4	0
(4) Sale of 'Transactions,' 'Rules for Infant Management' (Longmans) — 69 7 3			
Sale of 'Rules for Infant Management' (Printer) — 2 2 0			
Do. Do. (Society) — 0 1 0			
	71	10	3
Interest on 3 per cent. Consols: January, 1881 — £17 15 8			
July, 1881 — 17 18 9			
	35	14	5
Amount of stock standing in the names of the Trustees: January, 1881 — £1221 6 0			
Purchased January, 1882 — 84 8 0			
£1305 14 0			
	£990	12	0

By EXPENDITURE.	£	s.	d.
(1) 'Transactions,' Vol. XXII, 'Rules for Infant Management,' Printing, Lithography, Paper, and Binding, Composition of Index, and delivery of Volume	277	7	9
(2) Library: Books Purchased and Binding	41	6	0
(3) Museum and Library: Rent, Salaries, Furniture, Insurance, Petty Cash, &c.	291	8	11
(4) General Meeting and other Expenses: Meeting-room, Expenses of Meetings, Collection of Subscriptions, Postages, Stationery, &c.	123	11	11
Purchases into Consols, £84 8s., at cost of	84	0	0
Balance in hand carried on to next year	172	17	5
	£990	12	0

CHARING CROSS HOSPITAL MEDICAL COLLEGE LIBRARY

January 18th, 1882.

Examined and found correct,

CLEMENT GODSON, *Hon. Sec.*

JOHN BRUNTON,
JOHN EASTON,
GEO. RICE ORD, } *Auditors.*

as complete, in its special branch, as possible. At the end of 1880 the Library contained 2919 volumes. During 1881 48 books have been presented to it and 48 pamphlets, making, when bound, 5 volumes; 53 volumes in all. 39 books have been purchased and 13 pamphlets, making, when bound, one volume; together, 40 volumes. 44 periodicals have been taken in. The total number of volumes in the Library on December 31st, 1881, was 3056.

The Society has had during the year to lament the loss of its valued Librarian, Mr. T. Watson, who died in June last. Mr. Watson's unvarying courtesy, as well as his zeal and care in promoting the efficiency and utility of the Library, had led those who were brought into communication with him to esteem him highly. The Council have appointed in his place Mr. R. Wade Savage, in whom they believe they have secured an efficient and valuable officer.

G. Ernest Herman.

The Report of the Chairman of the Board for Examination of Midwives was then read, and its adoption, with a vote of thanks to Dr. Aveling, was moved by Dr. Edis, seconded by Dr. Cleveland, and carried unanimously.

The Examination of Midwives.

The Board of Examiners has much pleasure in congratulating the Fellows upon the increasing success of their tentative scheme for providing the public with a more efficient class of midwives. The number of applicants for the diploma of the Society is greater every year. In 1879 there were twelve, in 1880 twenty-four, and in 1881 forty-four candidates. Of the forty-four who came up for examination during the past year thirty-nine sustained their examinations and five failed.

The Examiners also have much satisfaction in being able to inform the Society that they notice considerable improvement in the knowledge of midwifery shown by the candidates, both in their written and *vivâ voce* examinations; and this

improvement they believe to be due to the excellent lectures which are now given to these women by physicians connected with the Lying-in Hospitals.

The Board wishes again to take this opportunity of urging upon the Council the increasing necessity which exists for procuring from Parliament a bill providing for the licensing and registration of midwives, and rendering it penal for any woman to call herself a registered midwife unless she be licensed and registered under the Act. An energetic effort in this direction is not only necessary for the public safety, but also out of consideration for this Society; for if the number of candidates for our midwifery diploma continues to increase in the same ratio as during the last three years, it may become a question whether the honorary labour of the Society is not being over-taxed, or possibly diverted from the objects for which the Society was originally instituted.

J. H. Aveling, M.D.,
Chairman of the Board for the Examination of Midwives.

The Scrutineers retired, and on their return the result of the ballot for officers and council for the ensuing year was declared as follows:

Honorary President.—Arthur Farre, M.D., F.R.S.

President.—J. Matthews Duncan, M.D., F.R.S. Edin.

Vice-Presidents.—John Bassett, M.D. (Birmingham); John Brunton, M.D.; Clement Godson, M.D.; Jonathan Hutchinson, F.R.C.S.; John Thorburn, M.D. (Manchester); John Williams, M.D.

Treasurer.—John Baptiste Potter, M.D.

Honorary Secretaries.—Alfred Lewis Galabin, M.A., M.D.; George Ernest Herman, M.B.

Honorary Librarian.—Francis Henry Champneys, M.A., M.B.

Other Members of Council.—John Ford Anderson, M.D., C.M.; Henry Charles Andrews, M.D.; George Paddock Bate, M.D.; Henry Bennet, M.D. (Weybridge); Peter

Lodowick Burchell, M.B.; Charles Henry Carter, M.D.; T. Edmondstoune Charles, M.D. (Calcutta); Edward Malins, M.D. (Birmingham); Walter Rigden; David Lloyd Roberts, M.D. (Manchester); Frederick William Salzmann (Brighton); Charles Brodie Sewell, M.D.; William Stephenson, M.D. (Aberdeen); William Heath Strange, M.D.; Edward Tayloe; John Knowsley Thornton, M.B., C.M.; Frederick Wallace; George Eugene Yarrow, M.D.

The President then delivered his annual address.

ANNUAL ADDRESS.

After hearing these reports, gentlemen, we have no hesitation in recognising the prosperity of this Society, now entering on its twenty-fourth year of existence. We have lost fourteen members by resignation and fifteen by death, not including two honorary Fellows who have died. At present our Society numbers 745 members; and, at our present numbers, which are not the highest reached by us, we are by far the largest obstetrical society in existence, or that has ever existed.

The state of our funds is gradually improving, and of this I need not speak in detail, for I am sure the Society has sufficient corporate spirit to provide any funds that it may need for the carrying out of its projects, if there were a demand beyond our ordinary income.

Our scheme for the examination and certifying of midwives is gradually gaining favour, and is, I doubt not, destined to a great future. Dr. Aveling continues to watch over it with zealous care, and we shall support his and all efforts to make it the basis or one of the bases of our appeal to Government to take in hand the much-needed registration of midwives. During the year forty-four applicants have been examined, and of these thirty-nine have had a diploma granted to them.

One of the very greatest objects which this Society has set before it is the formation and maintenance of a special library, and you have received the good report of Dr. Herman, your Honorary Librarian. During the year our acting Librarian and professional brother, Watson, has died under tragical circumstances. He was much esteemed and a valued servant. His place has been filled by Mr. Savage, who bids fair to be efficient and popular among us. To every member of this Society the library should be dear as a pet or hobby, and I do not go too far in saying that almost every member can do some signal favour to it and thus to the profession. Most medical men have some rare book or books, or at least books not in the library, and I boldly assume the function of a beggar, and say,—Give them now, or leave directions in your will that they be given when they are no longer of any use or pleasure to you. During the year the library has risen from 2919 to 3056 volumes.

During the session a large number of specimens have been shown with more or less of accompanying oral description and comment, and this part of our evening employment has been most interesting and valuable. These are the minor contributions to our proceedings, and we heartily welcome specimens and observations which are quickly brought before us, lest they should be utterly lost to science or have their freshness and striking peculiarities dimmed by delay.

It is to our deliberately prepared and previously announced communications that I next refer, and they are our great and lasting work, the only possible monument, *ære perennius*, of a Society like ours. These have been worked out at the bedside or in the laboratory, and carefully prepared in the scanty leisure hours of the study; and if we look to the position and professional activity of the authors, we shall only the more admire their zeal and powers of utilising their *horæ subsecivæ*. These papers have amounted in number to fifteen, and I daresay that, were they a hundred, we should not be satiated. Yet, while we

have had our hours of meeting completely filled, we might surely have more papers than fifteen from 774 members; and, looking at the position of most of the writers, and at the character of their papers, I would make appeal to our younger members, who have most time, youthful vigour, and openness to new ideas. A course of delightful, hard, unflinching, work at some one of the almost innumerable and generally easy problems lying around and awaiting solution, would produce for this Society a valuable work, and for the author abundant reward.

There can be no question that we at present owe to Germany the greater and the better part of the obstetrical work of the world, and we should look there for example. Doing so we feel a great deal is done by young men in the period of life just after graduation, when there is not much occupation in practice, and therefore much leisure for scientific work. These young physicians are often guided in the direction of their efforts by physicians of age and knowledge who know the problems that are awaiting solution.

Looking over the papers of last session, I have arranged them in three classes, a very imperfect classification, involving, however, some ideas. There are four papers the production almost entirely of the laboratory or the study. First, an anatomical paper by Jastreboff on the ganglion cervicale uteri, enumerating views, quite new in this country, regarding the dependence of functional and organic disease on previous disease in the plexus of ganglia; second, an anatomical paper by Heath, giving a report of an elaborate dissection of a diseased and malformed fœtus; third, an anatomical paper by Percy Boulton on a rare malformation of the vagina; fourth, a statistical paper by Rigden embodying the results of a long private practice.

There are in the second class six papers conjoining clinical observation with clinical remarks and practical criticism. First, a paper by Heywood Smith on a case of delivery in atresia vaginæ; second, Galabin's case of abdominal section in extra-uterine combined with intra-uterine pregnancy; third, Galabin on pregnancy complicated with cancer of

the cervix; fourth, Braithwaite on non-capsulated fibroids resembling retained placenta; fifth, Hickinbotham on a case of placenta prævia complicated by a large myoma; and sixth, Moullin's case of myxœdema with pregnancy.

There are in the third class five papers, in whose composition we find clinical remarks, and scientific elaboration or development, or an attempt thereat. First, a great paper with appendix by Barnes, on missed labour and lithopædion; second and third, two very valuable and mutually-related papers by Herman and Godson, the former on the relations of flexion to dysmenorrhœa, the latter on dysmenorrhœa and sterility; fourth and fifth, two papers by your President, one on phlegmasia dolens, and one on shortness of the cord as a cause of difficulty in labour.

We have here, and in other volumes of our 'Transactions,' a great variety of subjects treated and different methods adopted in treating them with a view to progress in the art and science of medicine. The objects are different and the subjective treatment, with a view to the same end, varies according to the genius of the author from the mere empirical method on the one hand to the modern rigidly scientific method on the other. Between the two extremes we see all the shades of distinction between the Tory and the Whig. We find at the one pole the followers of Hippocrates, of Sydenham, of Bright, and at the other those who pursue their work by aid of the microscope, the test-tube, the thermometer, &c. We find on the one hand the old observational clinical method, on the other the application of physics and of chemistry. There is the band of workers who delight in hospital and their voluminous case-books, and there is the other band who delight to retreat to the laboratory and to their calculations. In short there are the old and the new, those who study mainly the patient and those who study mainly the disease.

The long march of advancing research is ever increased by opening up of new fields and by the discovery of new instruments, and it is our duty as a Society to hasten the business. Every man, according to his bent, can find con-

genial occupation, from him who delights in general views and practical utility, to him who analyses and measures. The work of all hands is required, is indeed essential; and we have, as our duty here, to gather it, to sift it, and to publish it.

At all times, and never more than at present, contemporary renown is awarded to the young and daring, the original research, the instrument of precision, the clever hypothesis; and it has been, and is now, usual for seniors and those toiling amidst the difficulties of practice to disparage the juniors toiling in the laboratory. But there is truly no wisdom or justice in disregarding or deprecating any honest work, whether it is that of philosophic, old-fashioned, generalisation, or that of the highest power of the microscope. Great physicians were at one time young workers, and the best will be those who combine the two kinds of mental activity or who have passed from the one to the other. The practitioners will have wealth and power, the modern investigators will have renown. Both are indispensable to progress, and each should encourage and help the other.

Mr. Reginald Vernon Musgrave joined the Society in 1875. He served on the Australian station of the Peninsular and Oriental Steamship Company, and died of heat apoplexy at Bombay on May 21st, 1881, at the early age of thirty-one years.

Dr. Edward White, of Birmingham, joined the Society in 1877. He died May 29th, 1881.

Dr. John Copleston Baker, a Fellow of the Royal College of Surgeons of Edinburgh, joined the Society in 1867 and died on the 9th of September, 1880. He practised in Liverpool, and was forty-three years of age at his demise.

Mr. Symonds, of Oxford, a Fellow of the Royal College of Surgeons, Honorary Surgeon to the Ratcliffe Infirmary, Consulting Surgeon to the Oxford Dispensary, Coroner for the University of Oxford, was elected in 1859 a Fellow of this Society and held the office of Honorary Local Secretary, and was a Councillor from 1862 to 1865. He was, I believe, a brother of the late and well-remembered physician of Clifton;

and he interested himself chiefly in the matter of surgery rather than of obstetricy. But at one time he took much trouble to try to improve the lever and to extend the scope of its application; and I possess, as a gift from him long ago, a lever made after his model. He died on the 11th September, 1881, aged sixty-eight years.

Dr. Charles Dudley Kingsford, of Clapton, was elected a Fellow of this Society in 1869, and he served on the Council in 1879–80. He held some public appointments, and wrote some papers on diphtheria, which were published in the 'Lancet' in 1858 and 1879. On the 12th September, 1881, he died, aged fifty-one years.

During last year have also died Mr. Bateman, of Islington, at the age of seventy-four; Dr. Joseph R. Beck, of Fort Wayne, Indiana; Dr. Coote, of Ashby-de-la-Zouch, at the early age of thirty-nine; Mr. Roberts, of Rhyl; Mr. Foxon Foxon, of Brompton; and Mr. Taylor, of Chelmsford. I also mention the death of Mr. James Oldham, consulting surgeon to the Brighton Lying-in Hospital, on December 26th, at the age of sixty-four, although he had broken his connection with this Society, a step he had very recently taken. I had not the honour of Mr. Oldham's acquaintance, but I have heard him spoken of enthusiastically as a great and good physician, and his memory has a claim on our regard arising from his being the brother of a distinguished and highly respected past-president of the Society.

Dr. George Alexander Malcolm Simpson, originally an Aberdonian, was educated and graduated in the granite city. He joined this Society in 1874. He was a highly successful and much esteemed practitioner in Highgate, where he was a partner of Mr. Forshall. He held the office of Medical Officer of the Convalescent British Hospital for Sick Children. He wrote a paper on diphtheria, which was published in 1878 in the 'British Medical Journal.' He had the looks of a man destined for a long life and much usefulness, but was somewhat suddenly carried off by disease of the heart, last October, while he was on a holiday in his native country. So much esteemed was he in Highgate that an influential

Committee has been formed there to establish a lasting memorial of him. It is expected to take the form of a substantial contribution to the funded property of the hospital with which he was connected, and I am sure we all wish success to so appropriate a scheme for perpetuating the memory of a physician.

Dr. Alfred Henry McClintock, one of our Honorary Fellows, was born in 1821 and died in 1881, of disease of the heart and apoplexy. He was early apprenticed to Dr. Brunker, surgeon to the Louth Infirmary, received most of his medical education in the Park Street School of Medicine in Dublin, and at twenty-one years of age acquired the licence of the Royal College of Surgeons in Ireland. He then spent six months in Paris, which in 1842 was almost the only school regularly attended by young British medical men. In 1844 he received the degree of Doctor of Medicine from the University of Glasgow. His student life was now closed, and he at once dedicated himself to the obstetrical department of the medical profession, in which he continued stedfastly and zealously working till he died at the age of sixty years.

Having, as I have said, concluded that part of his life which was devoted to his own education, and having received the ordinary degrees or testimonials of the completeness of his equipment, he did not cease to be a student, as his works testify; but his studies were now destined to benefit not himself only but the public and the profession. He devoted himself to obstetrics and had the great good fortune, at the commencement of his career, to get the office of assistant master in the Rotunda under Dr. Charles Johnson. He resided in the hospital for three years. Nine years after he left the Rotunda he returned to it as master, an office which he held for the usual term of seven years. These combined seven and three years, ten in all, were, no doubt, the foundation of his greatness, his usefulness, his fame.

Within the bounds of the United Kingdom greater advantages for the production of an obstetrician could not elsewhere be found; none, indeed, nearly equal. The science

of obstetrics owes much to the great lying-in-hospital of Dublin, the only great one in these kingdoms. It is surely, in this assembly, useless to descant on the enormous gains to medicine derived from such institutions. For Ireland this one has produced an unbroken line of great masters of the art of midwifery and secured for the School of Dublin an enviable perennial distinction. Ten years of connection with it made McClintock a great master in midwifery, and afforded him materials for his scientific contributions.

The history of midwifery, while it shows us that very great works, the greatest indeed, may occasionally be accomplished by men who have not the advantages of a large hospital, demonstrates that it is chiefly from large hospitals that science derives its living continuous stream of progress, and that in them resides the best touchstone of practice. Moreover, there is a kind of wealth and maturity of experience derived from them that alone can endow a wise physician with a superior wisdom. Of these truths, the history of the Rotunda and the history of Dr. McClintock are good illustrations.

Of some of the work which McClintock did in the hospital we have a valuable record in his numerous published papers, many of which deserve collection and republication. We have, in addition, a great body of laborious investigations and research in a book which he and his friend, Dr. Hardy, combined to produce, a report of the great hospital's doings during three years of Dr. Charles Johnson's mastership, entitled 'Practical Observation on Midwifery and the Diseases incident to the Puerperal State.' This valuable work is founded on the observations of the labours of six thousand six hundred and thirty-four women, taking place between January 1st, 1842 and January 1st, 1845. It was published in 1848. In 1863 he produced his 'Clinical Memoirs on Diseases of Women,' a work, whose primary object, he says, is to embody some of the fruits of eleven years' experience in the gynæcological wards of the hospital; and which, he adds, would not have been undertaken at all

but from a sense of the debt and obligation which the opportunities of an hospital imposed upon him. Besides all this he did further professional work in giving lectures on midwifery and the diseases of women in the Park Street School of Medicine.

Dr. McClintock's numerous papers, his two volumes of original work, and his lectures, were what may be called tangible or substantial fruits of his study and practice; but, knowing him, as we do, we may be sure that beyond his mere services to the patients under his care and his printed or spoken teaching, an immense amount of influence for good constantly emanated from him to the practitioners and students and nurses who were brought into contact with him. The power of every word and of every look of a respected teacher can scarcely be over-estimated, and I feel sure that McClintock justly appreciated his great responsibility in these respects, and well repaid the debt and obligation which the opportunities of an hospital imposed upon him. He was an example of usefulness, truthfulness, and gentleness. These do not, in themselves, advance science or produce diligent and successful pupils, but they are qualities diffused by example, and they form the best ornaments of the man of knowledge, genius, and skill; and their deficiency should always be, and is, enough to induce abatement of affection and respect, however much room may remain for bare admiration.

McClintock received during his career many honorary distinctions and tokens of respect. He was Doctor of Laws of the University of Edinburgh, Master of the Obstetric Art of Dublin, Honorary President of the Dublin Obstetrical Society, Honorary Fellow of the American Gynæcological Society, of the Edinburgh Obstetrical Society, &c. Besides, he held many high professional offices, of which the last and not least was President of the Obstetrical Section of the International Medical Congress of London.

Dr. Thomas Radford was born near Manchester in November, 1793, and died there in May, 1881, aged 88. He was educated at Chester, and when seventeen years of

age was apprenticed to Mr. William Wood, an eminent general practitioner in his native town. He had his medical education partly in Manchester partly in Guy's and St. Thomas's Hospitals. At the age of twenty-four he became M.R.C.S. and L.S.A.; and next year, 1818, he obtained the office of Surgeon to the Manchester and Salford Lying-in Hospital. So, like all great obstetricians, he began life in obstetrical harness in a hospital, and he ended life holding the offices of Consulting Physician and Chairman of the Board of Management to the same institution.

He lectured on midwifery in two Manchester schools of medicine successively for many years, and in 1854 he, in Manchester, gave the first address on Obstetric Medicine to the Provincial, now British, Medical Association. He published many papers, and took always keen interest in all obstetrical proceedings. He was one of the first Vice-Presidents of the Obstetrical Society, a Fellow of the Royal College of Physicians of Edinburgh and of the Royal College of Surgeons of England.

Radford lived in a great city historically, and now famous in obstetrics. Of the present good maintainers of its just eminence I shall not speak, and I need say nothing regarding Mr. Charles White, who flourished in the end of last century, or of Dr. Hull, of the beginning of this one. Besides these Manchester has produced Kinder Wood and Roberton and Charles Clay. The obstetric work of Manchester that is best known, because it made a great noise in its day, has reference to Cæsarean section; and to the questions, still far from settled, regarding this operation, Radford naturally devoted attention. Indeed, his best known work is on 'Deformities of the Pelvis and Cæsarean Section,' and of it a second edition appeared so late as 1880. Not the least part of his good life-endeavour is to be read in a book which he neither wrote nor published, but which we owe to the zeal of our Fellow, Mr. Cullingworth. This book appeared in 1877, and is entitled 'Catalogue of the Radford Library, St. Mary's Hospital, Manchester,' and it

is a record of magnificent and enlightened generosity. "In the year 1853," says Mr. Cullingworth, "St. Mary's Hospital, Manchester, was enriched by the gift of a very valuable library and museum. They were named respectively the 'Radford Library' and the 'Radford Museum,' so that the name of the munificent donor might be permanently associated with his gift. Both had been formed by Dr. Radford himself, and the many important additions since made to the library have all been presented by him. I have (he adds) Dr. Radford's permission to state that he has also placed an endowment fund of £1000 in the hands of trustees, and that the interest on this sum, which will become available at his death, will be devoted exclusively to the maintenance and extension of the library."

Otto Spiegelberg, an Honorary Fellow of this Society, and deservedly one of the most famous of modern obstetricians, was born on January 9th, 1830, at Peine in Hanover. He died of contracted kidneys and heart disease at Breslau, on the 9th August, 1881, at the too early age of fifty years, a deplorable event, suddenly arresting in mid-career a life of very great activity and beneficence in both science and practice.

Spiegelberg received a classical education at Hildesheim, and at the early age of eighteen entered the University of Göttingen. Here he already showed his inclination towards the pursuit of midwifery, and so attracted the regard and esteem of his teacher, E. C. I. von Siebold, that he took him with him to Vienna on a scientific expedition in 1852. On his return to Göttingen Spiegelberg set about the study and practice of midwifery with zeal destined never to wane. In 1855 he made a scientific journey to England, Scotland, and Ireland. I remember the bright-eyed, zealous youth, diligently seeking all kinds of knowledge in Edinburgh, where my highly-prized acquaintance with him began, soon to ripen into a mutual friendship, which lasted till his death. In 1860 he published a small text-book of midwifery, and in the same year he was made extraordinary professor of midwifery in the University. In 1861 he was

called to Freiburg as Professor Ordinarius, and there he married Fräulein Louise de Bary. After two years in Freiburg he went to Königsberg as professor, but before he was well settled there he accepted the same office in Breslau, in 1865. He thus held four professorships of midwifery successively; but this is not all, for he had the great honour of being invited, in 1878, to the Professor's Chair in Strasburg,—a professorial character of remarkable variety.

In 1870, co-operating with the well-known and highly-esteemed Professor Credé, of Leipsic, he started the 'Archiv für Gynaekologie,' and to it he contributed many valuable papers in midwifery, but especially in gynæcology, to which latter department he was specially devoted during the latter half of his professional life. This great journal, conducted by Credé and Spiegelberg, has done very great honour to its conductors and contributors, being by far the best obstetrical periodical that has ever appeared, eminently distinguished for its high scientific character, successfully pushing obstetrics and gynæcology into that truly scientific position which it is our highest ambition as a society to promote. In this journal there appears a necrological account of Spiegelberg to which I am indebted, and for which we have to thank Spiegelberg's warm and admiring friend Leopold.

The great, I feel inclined to say the immortal, work of Spiegelberg is his 'Lehrbuch,' which appeared in 1878, and of which the second edition is only partially published. In a letter I had from him a few days before his death, in which he discussed the prospect of his coming to the International Medical Congress, he mentioned that he was far advanced with the second half of his large work and that he hoped soon to complete it. The first edition of this book is only nominally a second edition of the small 'Lehrbuch,' which he published in 1858 while still at Göttingen. The 'Lehrbuch' of 1878 is about the largest system of midwifery that has ever appeared. It is greatly to be lamented that he did not live to finish the new edition, and to edit even still more. Only second to the best original

work is the production of a first-rate Lehrbuch, and in this, I believe, we have an example of unsurpassed excellence. The two parts of the work which still await publication are, I believe, to be edited by Dr. Wiener, lately assistant to Spiegelberg.

Dr. James George Wilson was the son of a distinguished accoucheur of great experience and fame, who practised in Glasgow, and whom I remember as a venerable figure, highly respected in the profession. He is still memorable as taking an early and active part in the promotion of the treatment of labour complicated with contracted pelvis by delivery after podalic version, a mode of dealing with such cases which is still far from having the limits of its applicability thoroughly well defined, there being many differences of opinion regarding principles as well as important details. His son, James George, was born and bred in an obstetrical atmosphere, and grew into nothing else than an obstetrician. His mind was always occupied with this study, and his life filled with the practice. He enjoyed the confidence of his professional brethren and of a large circle of patients and friends. When the Chair of Midwifery in the University of Glasgow became vacant by the death of Dr. Pagan, many regarded Dr. Wilson as the best candidate for the office; but, as is well known, he was beaten by our respected Fellow, Professor Leishman. In 1863, however, he was elected to the Chair of Midwifery in Anderson's College. In 1855 he was appointed physician to the Glasgow Maternity Hospital, and in 1875 he became a consulting physician to the same institution; and it is interesting to notice that with this hospital he and his father had had official connection since 1834, that is, for forty-seven years. This long stretch of time for experience yielded valuable fruit in the matured wisdom of both father and son.

Dr. Wilson had overflowing enthusiasm in the study of midwifery as a science and as an art, but his contributions to medical literature were all of the kind called practical. They are mostly to be found in the pages of the 'Glasgow Medical Journal' and of the 'Medical Times and Gazette.'

His fellow-townsman, Dr. W. L. Reid, has sent me a list of fourteen papers by him, and of these the first, on a case of aneurism, appeared in the 'Glasgow Medical Journal' for 1855, and the last being notes of unusual obstetric cases, in the same journal for 1879.

Dr. Wilson in the course of his life held several important obstetric offices, and was awarded several medical titles of distinction, among which not the least was that of Vice-President of this Society, an office to which he was promoted in 1865.

Gentlemen, it has been to me a great pleasure to preside over your meetings, and I have to acknowledge with gratitude your uniform courtesy. While reflecting with much satisfaction on our past year's work let us strive to make that of the next surpass it.

It was moved by Dr. Playfair, seconded by Dr. Gervis, and carried with acclamation, "That the best thanks of the meeting be given to the President, Dr. Matthews Duncan, for his excellent address, and that he be requested to allow it to be printed in the next volume of 'Transactions.'"

It was moved by Dr. Aveling, seconded by Dr. Routh, and carried unanimously, "That the Society desires its most cordial thanks to be given to its retiring officers, viz. the Treasurer, Dr. Gervis, the Hon. Sec., Dr. Clement Godson, and the Hon. Librarian, Dr. Herman, for their zealous and valuable services to the Society during their respective terms of office."

A vote of thanks to the retiring Vice-Presidents and to the other retiring members of Council was then moved by Mr. Walter Rigden, seconded by Dr. Heywood Smith, and carried unanimously.

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MARCH 1st, 1882.

J. Matthews Duncan, M.D., F.R.S. Edin., President, in the Chair.

Present—40 Fellows and 7 visitors.

Books were presented by the Editors of 'St. Bartholomew's Hospital Reports,' Editors of 'Guy's Hospital Reports,' and by the Medical Society of London.

William Peacey, M.B., and John Phillips, B.A., M.B., were admitted Fellows of the Society, and the following were declared admitted :—James Alexander Close, M.B. (Illinois, U.S.A.) ; William Alexander Hepburn, F.F.P.S.G. (Coxhoe) ; Francis Boynton Lee, F.R.C.P. Ed. (Heckmondwike) ; and John Edward Norman, M.R.C.S. (Eske, Durham).

The following were elected Fellows :—Herbert Blott, M.R.C.S. ; Audley Cecil Buller, M.R.C.S. ; James Roberton Crease, F.R.C.S. Ed. (South Shields) ; Upendra Krishna Dutt, L.R.C.P. Ed. (Dublin) ; Francis J. R. Russell, L.K.Q.C.P. ; David Maurice Serjeant, M.D. ; Hugh Thomas, M.R.C.S. (Birmingham).

FIBROID TUMOUR OF THE UTERUS.

Dr. Bantock exhibited five specimens of fibroid tumour of the uterus, removed by abdominal section within the last seven months. They were interesting as showing the

various forms in which these tumours are found, and some as examples of the degeneration they undergo. They weighed respectively, 12lb., 6lb., 4½lb., 3¾lb., and 1lb. The ages of the patients were 45, 40, 38, 42, and 36. Some were of longstanding, others of recent growth. In only one of the cases was menorrhagia a prominent symptom, and in that it was sufficient to produce the most profound anæmia.

No. 1.—The patient was in hospital about five years ago, when the diagnosis was doubtful and nothing was done. When she again came under notice her condition was most unpromising; there was a small, very movable mass near the umbilicus, attached to another very solid tumour, which extended from the bottom of Douglas's pouch to the level of the spleen; the uterus could not be felt at all, the os being high up behind the pubic symphysis. Yielding alone to the urgent request of the patient, who said that such was her suffering that she could no longer go on as she was, and that if nothing were done for her she must destroy herself, the operation was undertaken on June 20th, 1881. After separating very extensive omental adhesions, chiefly to the smaller mass, the whole was turned out, and the pedicle obtained by including both ovaries and the uterine body somewhere near the internal os.

No. 2 was from a woman aged 40. There were no adhesions. The operation was comparatively simple; both ovaries and a large portion of the uterus were included in the pedicle.

No. 3 was from a lady who was beginning to menstruate in excess, and to suffer pain and general deterioration of health. In this case the ovaries could not be included in the pedicle and they were removed separately.

In Case 4 the patient had, two months before operation, suffered from severe attacks of pain terminating in vomiting. These attacks continued daily for several weeks and then gradually ceased, so that she had not had one for three weeks before operation. There were very extensive adhesions to the parietes and intestines; the left Fallopian tube and fimbriæ were very much enlarged, and adhered to

confused mass of intestine; the colon and small intestine adhered to the parietes and one another, so that it was difficult to get into the general peritoneal cavity; the left ovary was enlarged and adhered to the Fallopian tube and back of broad ligament, and after separation was included in the pedicle; the right ovary was also bound down by adhesions, but being very small it was not interfered with, and being low down could not be included in the pedicle, though the greater portion of the uterine cavity was removed. The tumour was an admirable example of a hard fibroid undergoing cystiform degeneration.

No. 5 was from a woman who, when first seen by him presented all the symptoms that one is accustomed to associate with an ovarian tumour whose pedicle has become twisted, such as severe vomiting, intense pain, etc. There was also a question of early pregnancy which time answered in the affirmative. She miscarried at three months and about six weeks after was operated on. The tumour was almost enveloped in omentum. After the separation of these adhesions the ovaries were removed. It was at first intended to remove the ovaries only, but the oozing that went on from the torn surface of the tumour and its tempting pedicle, springing from the fundus uteri, led to the removal of the tumour also. This was so far fortunate for it presented a good example of cystiform degeneration in a very early stage.

In all these cases the pedicle was kept outside, secured at the lower angle of the wound by Kœberle's serre-nœud, and supported by two stout pins (specially constructed), transfixing the stump transversely just beyond the wire loop.

The serre-nœud is in the form of a small écraseur, with a loop of soft, flexible iron wire. At first it is tightened sufficiently to stop bleeding, and it is usually necessary to give the screw an extra turn before putting the patient into bed. When the pedicle is very thick bleeding will almost certainly occur within the first twelve hours, but it is easily controlled by one or two turns of the screw. In two cases the bleeding

was considerable. After this the loop is tightened from time to time, and the stump drops off or is cut away in from fourteen to eighteen days.

In all these cases the patients recovered well, as have done all the cases treated similarly (eight in number), while all treated by the intra-abdominal method have died from one cause or another (four in number).

Dr. Bantock also exhibited a specimen (in fragments) of a very soft fibroid removed *per vag.* by enucleation from a single woman æt. 54. The case was a very remarkable one in several respects. Menstruation began at 18 and continued normal up to 21, when vicarious menstruation, through the mouth and nose, took its place and continued till the menopause at the age of 47. At 51 she had a severe flooding for several weeks continuously. She entered in succession, and after some considerable interval, two of the large general hospitals, in both of which the existence of a large fibroid projecting into the vagina was correctly diagnosed. In one the subcutaneous use of ergot was fairly tried, but with no beneficial result. In neither was any surgical treatment either suggested or attempted. Visited in private she was supplied with a large vaginal ring-pessary, of which the only appreciable effect was a very copious offensive discharge. This pessary was removed when first seen, and copious vaginal injections were used with the result that the smell disappeared, and in due course she entered the hospital for operation. There was a copious aqueo-sanguineous discharge, the tumour projected into the vagina, occupying the anterior lip, and bled freely from digital examination. The posterior lip could be felt, thin and membranous, stretched across high up behind the mass. An incision through the most prominent and accessible portion of the tumour was first made to the extent of from two to three inches, the edges of the capsule were caught hold of by vulsellum forceps, and held firmly, and enucleation effected by the finger. No assistance could be obtained by traction on the tumour, as, owing to its extreme friability, it gave way

directly the instrument was compressed. The mass was therefore broken down by the finger and removed piecemeal. The cavity was plugged with tampons of cottonwool soaked in glycerine to which iodine was added, redundant portions of the capsule were cut away, and the patient removed to bed. A few hours afterwards there was very free bleeding, the plugs were removed, iced water injections employed, and the plugs re-applied; but it was not till counter-pressure over the hypogastrium was applied that the bleeding was quite controlled. The patient made a good recovery, copious and frequent injections of sulphurous acid serving to keep down putrefaction. The fragments of the tumour weighed 15 oz.

CASE OF EXTRA-UTERINE FŒTATION REMOVED BY ABDOMINAL SECTION.

Mr. Knowsley Thornton showed an extra-uterine fœtation which he had removed on Tuesday, February 28th, at the Samaritan Hospital by abdominal section. The patient was 29 years of age, and had had one child before marriage eight years ago. She had been married two years, and had been regular till June, 1881, when she became pregnant. She had suffered an unusual amount of pain during gestation, and in January of this year had a miscarriage. She was then attended by Dr. Hill, of St. John's Wood. Nothing came away but a membrane, and Dr. Percy Boulton was called in consultation, and finding a doubtful abdominal tumour took her into his ward at the Samaritan Hospital. Mr. Thornton was asked to see her, and they were in much doubt as to the diagnosis; but after careful examination came to the conclusion that it was probably a fibroid of the uterus covered by adherent intestines. As the patient was very ill, and anxious that something should be done, Dr. Percy Boulton transferred her to Mr. Thornton's care with a view to an exploratory operation;

having first by dilatation of the cervix with tents satisfied himself that the uterus was of normal size, and was empty. The operation was a very difficult one, the tumour being completely surrounded by adherent omentum and intestine, and having a very close, broad, and fleshy attachment to the right angle of the uterus. It was, however, removed, the attachment to the uterus being treated like an ovarian pedicle. During the separation of adherent intestine a rupture took place between the upper and lower portions of the mass and a withered fœtal leg protruded. The tumour was found to consist of a small upper portion containing the fœtus and a larger solid portion closely connected with the uterus. The upper portion appeared to be a tubal fœtation, and the lower and solid tumour largely composed of blood clot, but whether of the ovary, uterus, or tube it was impossible to say without careful examination. Mr. Thornton promised to thoroughly examine the specimen and report further to the Society, but he thought it would be of interest to the Fellows to see the specimen while fresh. The patient on the third day after operation promised well for recovery.

UTERINE FIBROID.

Dr. Herman showed fragments of a uterine fibroid which, while in process of spontaneous expulsion, had been mistaken for placenta. The patient was unmarried, æt. 25. Advice was sought on account of fœtid vaginal discharge. Examination showed the os uteri dilated, and a ragged fibrous mass protruding through it. Under the supposition that this was placenta its manual removal was attempted, but it could not be detached. She was then admitted into the London Hospital, under the care of Dr. Herman. An attempt was made to enucleate the tumour by means first of Thomas's "spoon-saw" and then with Emmet's enucleator; but there was no distinct capsule, and the attachment of the

growth to the uterine wall was so tough and its fibres so pliable, that it could not be detached with these instruments. Different parts of it were therefore successively seized with forceps and cut off as close to the uterine wall as possible, and thus the bulk of the tumour was removed. The patient recovered well, except for an attack of phlebitis. The temperature ranged irregularly between 99° and 103° until the 23rd day after the operation and then became normal. The cervix had regained its normal size eighteen days after the operation.

HISTOLOGICAL RESULTS OF LACERATION OF THE CERVIX.

Dr. Galabin showed two microscopic sections which he thought might be of interest in relation to the paper of the evening. They were sections of the flaps removed in two cases of Emmet's operation. In both instances the surface looking toward the vagina was shown to be really the everted lining mucous membrane of the cervix. In the first case laceration had not existed many years, and the appearance had been that of a florid villous erosion. The section showed that the villi were the villi of the cervical canal hypertrophied, but there was no very marked inflammatory change. The cylindrical epithelium was almost intact, except that at the tips of the villi it appeared to be undergoing a transition into squamous epithelium, and the tips of the villi were also infiltrated with inflammatory cells. In the second case the laceration was of many years standing, and the appearance had been less villous. The cylindrical epithelium here was almost entirely lost, but there were patches of ill-formed squamous epithelium between the gland orifices. The surface was densely infiltrated with inflammatory cells, and the gland orifices appeared to be to some extent blocked, and the glands beneath dilated and proliferating.

NOTES ON TRACHÉLO-RAPHÉ, OR EMMET'S OPERATION.

By W. S. Playfair, M.D., F.R.C.P.

My object in bringing this operation before the Society is not to lay before it any new or original matter, but to solicit discussion on a topic which has attracted much attention in America and in Germany, but which, strangely enough, although it has for years been largely studied elsewhere, has received little or no notice from British gynæcologists. I think I am justified in making this statement, for the discussions of this Society may fairly be taken as the measure of the most advanced views on British gynæcology, and Emmet's operation, and the theory of certain forms of uterine disease on which it is based, have never yet been before us in any way, nor do I know of any paper on the subject in our medical periodicals, or in our gynæcological text-books, with the exception of the two recent works of Drs. Galabin and Edis, in which there is a brief notice of it, but no estimate of its importance or results apparently based on personal experience.

Considering the amount of work devoted to this topic in America, and the high, possibly extravagantly high, estimate formed of the operation by the most eminent American gynæcologists, who are always in the van of progress in the diseases of women, it is surely not very creditable to us that their views should not, at the least, have received from us earnest and respectful study. I am desirous that whatever conclusion we may arrive at, it should no longer be in the power of our American brethren to say, as some of them have already said, not without reason, that we in this country have persistently refused to study what authorities so high as Emmet and Gaillard Thomas, as well as many other lesser lights among transatlantic practitioners, do not hesitate to describe as the greatest improve-

ment ever introduced into practical gynæcology. When men of such large experience make a deliberate statement of this kind, it seems to me to be a very absurd thing for us not to try, at least, to understand what it is that has induced them to commit themselves to so strong an expression of opinion, and very difficult to believe that there is not some foundation in fact for their views.

So little has this topic been discussed in this country that I find that many otherwise well-informed practitioners, who, naturally enough, in the hurry of busy lives have little time to make themselves familiar with foreign medical literature, have hardly ever heard of Emmet's operation; and I trust, therefore, that I may be pardoned if I commence by giving a very brief outline of the nature of the operation, and the views entertained regarding it, before I lay before the Society an expression of my own experience in connection with it.

Beyond any doubt the name that will always be associated with the operation of trachélo-raphé is that of Dr. Emmet, of New York, who was not only the first to point out that the condition which we are generally in the habit of describing as inflammatory erosion or ulceration of the cervix is, in reality, ectropion of its lining membrane following laceration of its tissues, but devised and practised the operation for its cure. The fact on which the operation is based is one beyond any possibility of question. It is, perhaps, somewhat humiliating for us to admit that we have all been misunderstanding these cases, and it is not very easy to convince sceptics of the fact who have not accustomed themselves to the only method of examination by which it can be appreciated. So long as we use the ordinary cylindrical speculum only, its extremity impinges upon the everted lips of the lacerated cervix, which are turned and rolled outwards like the head of a piece of celery, and give the impression of an ulcerated surface. If, however, we use a duck-billed speculum and a pair of tenacula, we can, with the greatest ease, approximate the surfaces of the torn cervix, and at once the apparent abrasion disappears, and the cervix seems for the moment to be of its

usual shape and of an unbroken surface. Whatever theory we may form of the importance of this lesion, the *fact*, first pointed out by Emmet, that most cases of supposed abrasion are not cases of abrasion at all, is one which any one who chooses can readily satisfy himself of if he investigates it properly. The duck-billed speculum, as an ordinary aid in uterine examination, is, unfortunately, as yet comparatively seldom used in this country; and I do not hesitate to say, that the opinion of any one as to the frequency of this lesion —I am not now speaking of its importance—is worthless unless it is based on knowledge gained by the habitual use of this method of investigation, since those generally used in this country are certain to deceive. Although Emmet first performed his operation so long ago as 1862, he did not publish his views until February, 1869, and he wrote a second, and more important paper, in 1874, and from that time his subject began, year by year, to attract more and more attention. In America, where it originated, the operation is thoroughly established, and I am not concerned to deny that it may be practised with unnecessary frequency, and in cases in which it is not legitimately called for, as is always happens when any new improvement is warmly advocated by over-zealous supporters. In Great Britain, as we know, it has scarcely been practised at all, but on the Continent it has already found several strong advocates, as Horwitz, of Copenhagen, Rokitansky, of Vienna, and Briesky, of Prague. Dr. Schenck, of St. Louis, who has recently published a lengthy paper on this subject, believes that European writers have neglected it on account of national jealousy. I am not afraid of many of his compatriots being of the same opinion, but the sooner we remove any ground for this taunt by giving it dispassionate consideration the better.

That the so-called inflammatory abrasion or ulceration is an important factor in old-standing cases of uterine disease is an established fact, and much of our gynæcological practice is based on it; since we know how, until flexions became so fashionable, the attention of practitioners was to a

great extent concentrated upon it, and much of the current practice was based on attempts to cure it by caustics, alterative applications, and the like. I, for one, am fully prepared to admit that when the uterus exhibits this lesion to a marked degree, it is almost invariably in a state of disease, and treatment is essential. If, however, it be a fact, as Emmet and his followers contend, and, as I believe, a little careful study will convince any one who takes the trouble to examine in the right way, is really the case, that we have mistaken the vast majority of these cases, and that the local conditions observed through the speculum really consist of ectropion of the lining membrane of the cervix associated with laceration, then the logical deduction is inevitable, that the proper method of cure is to remove the cause, and this can only be done by the operation in question. The real thing for us to decide is whether what I have stated is a fact or not, and for myself, having paid of late much attention to it, I do not see how it can be contested. The symptoms, of course, it is needless to describe; they are familiar to all of us, and consist of the usual local and general symptoms of uterine disease more or less modified, such as bearing-down, backache, leucorrhœal discharge, disorders of menstruation, inability to walk, various reflex disturbances, such as headache, digestive derangements, and all the protean symptoms which every physician of experience knows to be more or less generally associated with uterine disease. That these may be greatly relieved, if not permanently cured, by suitable treatment, is, I believe, admitted by Emmet and his followers. Their contention rather is that the injury to the uterus keeps up a state of irritation, which renders such amelioration in many instances only temporary, that relapse is very apt to occur, and that in permanently removing the injury to the cervix we afford the patient the best chance of a radical cure.

Whether this contention is justifiable or not is, I venture to think, not to be decided on any *a priori* reasoning, but by actual practical experience; and only those who have performed this operation, or witnessed its results, are, I sub-

mit, qualified to offer an opinion of any value upon it. My own experience is of some interest with regard to this statement.

Some eighteen months ago I was in the position in which I doubt not many in this room are at this moment. I was familiar with the writings of Emmet, Thomas, Goodell, Mundé, and others, on trachélo-raphé, but I was very unwilling to admit that I had been for years misunderstanding my cases, and I looked upon their statements as exaggerated, and was, in fact, strongly prejudiced against them. My attention having been drawn to the subject I got more and more into the way of using a duck-billed speculum and tenacula, and I was soon forced to the conclusion that the facts at least on which the operation was based were accurate, and that lacerations did in truth exist with a frequency little less than the American writers stated. So strong, however, were my former views or prejudices that I was not induced to try the operation. About this time a patient, who had been from time to time under my care, sometimes a little better, then bad again, but never permanently well, went on a visit to America. There she consulted some one who performed trachélo-raphé, and she came back in a few months with an apparently virgin cervix, and with all her old symptoms perfectly cured, and so they have remained ever since. This case was in some sense a revelation to me, and I determined to put the matter to the test of practice. I accordingly sent to New York for the instruments used by Emmet, and I have since performed the operation about twenty times, with the result of satisfying myself that there is, at least, a large foundation of fact in the views so ably propounded by Emmet, and that although the operation may at present be rather over estimated in America, it is one of great and unquestionable value, which enables us permanently to cure many intractable cases, and which is quite sure, ere long, to take a prominent place in scientific practice in this and in every other country.

I have no intention of trespassing on the patience of the Society by any description of the operation. This would

only be repeating what is already fully discussed in the standard works of Emmet and Gaillard Thomas, which will naturally be consulted by those who intend to try it, my present object being not at all to write a paper on a subject already fully treated of elsewhere, but rather to bring the matter before the Society, to elicit the opinion of the Fellows upon it, and to endeavour in some degree to relieve British gynæcologists from the stigma of neglecting what is stated, on high authority, to be a great advance in practice. I may say, however, that I do not think that the operation is by any means an easy one to perform well; on the contrary, I believe that it requires a considerable amount of surgical skill to perform in such a manner as to yield really good results. It is certainly, so far as my experience goes, perfectly safe, but I should say that it was less easy, for example, than perineo-raphé, partly on account of the difficulty of sufficiently vivifying the edges of the lacerated cervix, and more so in the passing of the wires by which they are to be held in apposition, which in the tough cervix, situated in the narrow vaginal canal, is often far from a simple process. The fact, therefore, that the operation requires considerable trouble, both in preparing the patient and in its performance, will always, I apprehend, suffice to prevent it being unnecessarily performed, and any fear that may exist on this score may be discarded as groundless. I am perfectly satisfied, moreover, that there are many very marked and characteristic examples of lacerated cervix which produce no symptoms whatever, and in which no kind of surgical interference is allowable. Of this I entertain no doubt whatever. When I first began to study this question I carefully noted every case of lacerated cervix that came under my observation, and I know of several most extensive lacerations in which the surfaces were quite cicatrised, and which lead to no injurious effect of any kind. To subject such cases to a difficult and complicated operation would be a most glaring evil. It is not, I believe, the existence of a laceration that is the proper ground for operation, but the fact of its being associated with ectropion of the lining

membrane of the cervix and other signs of local uterine disease. This is a fact which I think many of the more ardent supporters of the operation in America are apt to overlook, some, indeed, going the length of maintaining that all lacerations should be dealt with for the purpose of avoiding future possible mischief.

Briesky, Emmet, and others contend that epithelioma of the cervix always commences on the unhealed surface of a laceration, and that this risk is of itself a reason for operation. On this I offer no opinion, but I am tempted to relate a curious fact—which, however, may be only a coincidence—which came under my own observation some eighteen months ago. When I was thinking over the matter a good deal, and before I had ever operated, I saw a patient with my friend Mr. Bezley Thorne, who had, amongst other local states, one of the most distinct unilateral lacerations I ever saw. I pointed this out at the time of our consultation, remarking, that if this patient had been in America she would certainly have been operated on. I heard no more of this case until May of this year, when I was again asked to see the patient, on account of some recent metrorrhagia, and on examination, I found the portion of the cervix where the laceration had been situated, occupied by a mass of epithelioma as large as a turkey's egg. This I excised, cauterising the base of the tumour with chloride of zinc, and with a very favorable result, there being as yet no appearance whatever of the recurrence of the disease. In reference to the theory I have mentioned, this case is certainly curious. Had I seen it with my present knowledge I would probably have performed trachélo-raphé, since the case was one which in other respects fully justified it, and might thus possibly have saved the patient a great risk.

It would serve no good purpose to lengthen this communication by the narration of cases. I will only, very briefly, record one which will serve to illustrate the kind of case in which the operation is likely to prove of use.

Some five or six years ago a lady, æt. 25, came under my care. Since her last confinement she had suffered much

from uterine symptoms, chiefly pain and bearing down, which confined her more or less constantly to her sofa, profuse leucorrhœal discharge, and abundant menstruation. I found the uterus large, excessively tender to the touch, retro-flexed, and obviously sub-involuted. The cervix was greatly hypertrophied, and covered with florid granular erosion. The uterus was so sensitive that no pessary could be borne, and her general health, in consequence of the menorrhagia and the constant confinement to the house, was very bad. Until May of this year this lady was constantly under my care, and I exhausted every known means for her relief, but with no permanent benefit. By regular intra-uterine medication with carbolic acid the catarrhal discharge was from time to time lessened, and for the last year or more, under the use of hot water vaginal irrigations, the tenderness of the uterus was so far diminished that it was possible to adjust a Hodge to support the heavy retro-verted fundus; but the relief was only temporary, the menorrhagia continuing unabated, although I twice applied nitric acid to the uterine cavity, and at the end of this long attendance the patient was practically little better than at the beginning. She was still quite unable to walk more than a few hundred yards, and was in every respect a confirmed invalid.

As soon as my attention was specially directed to Emmet's operation, I recognised the fact that this patient was the subject of a very marked bi-lateral laceration of the cervix, with hyperplasia of its tissues, and eversion of its lining membrane, which gave it the appearance of being covered with granular erosion. By means of tenacula its sides could easily be brought into apposition, and the appearance of the healthy cervix restored. It was long, however, before I determined to operate on this case, which I did early in May of this year, with a perfectly successful result. From the moment the patient recovered all her symptoms began to disappear. Six months have since elapsed and she is now as well as she ever was, the retroversion has spontaneously disappeared, the cervix, seen through the

speculum, is smooth and healthy, there is no leucorrhœal discharge, and the periods are now perfectly regular as to duration and quantity. As to the effects on the general health all I need say is, that this lady, who for many years had been unable to take the slightest exertion, spent six weeks in autumn travelling about Switzerland, and only the other day she walked to my house from Bayswater and back again. Now I may fairly claim this as a really perfect illustrative case. It is not often that one has the opportunity of watching a case through so long a period, since most women would long since have lost patience and gone elsewhere. I may fairly say that there was nothing I could think of to do this patient good that I had not tried, and in vain; but almost at once, after repairing the injured cervix, she regained health and strength, and remains perfectly cured. I could easily relate several other examples of the same kind, but I think this one will suffice. Curiously enough on the very afternoon of the evening on which I write this I chanced to meet in a railway carriage a patient of Mr. Tait, of Highbury, on whom I operated some months ago, of whom I had not heard since the day I removed the sutures. I was struck by her improved appearance, and she told me that ever since the operation she had been perfectly well, all her old symptoms having disappeared, and that she had not felt so strong and healthy for years.

I make no attempt to enter into many interesting points in connection with this subject which are well worthy of study, such as the causation and prevention of laceration during labour, the relative frequency of the lesion, the effects of the operation on subsequent labours, &c.; all these will be found fully discussed in the many interesting monographs published in America.

I make no pretension to writing an exhaustive paper. My sole object being to throw together such brief notes as may raise a discussion, and to direct the attention of the Society to a subject which has been strangely neglected in this country. I can quite understand that many of our

Fellows will find it very difficult to admit that for years they have been overlooking an important lesion, capable of a rapid and satisfactory cure. That is only natural. I am quite prepared, moreover, to hear the usual facetious argument against the operation, that for years gynæcologists have been in the habit of cutting open the cervix, and that it is unreasonable to ask them all of a sudden to undo their work and sew it up. On this it is only needful to say that there is a marked and obvious distinction between the effects of an incision in a nulliparous cervix for a definite congenital malformation, and of a traumatic laceration in a gravid uterus in which involution has to take place. I have never been a great advocate for incising the cervix, which is an operation I do not very often perform; but certainly nothing that I know of Emmet's operation will induce me to perform it at all less frequently than I have hitherto been in the habit of doing.

My own conclusions may be briefly summed up in the statement that, although there are a large number of cervical lacerations which produce no effect whatever, and, having healed, call for no treatment, there are a considerable number which give rise to much irritation of the uterus, which lead to important secondary results, and that these cases are often rapidly and permanently cured by this operation, for the introduction of which we owe Dr. Emmet a debt of gratitude, and with which his name will always be associated.

Dr. SAVAGE said that Dr. Playfair proceeded on principles directly opposed to those of Emmet. Emmet insists on a rule, without exception, that his operation should not be performed when the cervix is diseased, or if so, not until every sign of disease and threatening pelvic mischief is removed. The American school profess to believe that every disease (none excluded) incidental to the uterus may be, and generally is, the direct consequence of a cervical laceration. The English school disbelieves this on good grounds, so whilst in this state of mind Emmet's operation will find in it but little favour. The models and prints illustrating the diseases alluded to in Dr. Playfair's paper may be seen in their entirety through an ordinary Fergusson's speculum,

to apply to them Emmet's operation, admittedly not seldom followed by pelvic mischief, would be an act of folly in extreme. Entropion, not ectropion, according to Dr. Emmet is the common result of the lacerations he means. The English school knows very well that all uterine disorders may be associated with a round mouth cervix, and the dubious advantage over a wide mouth cervix attending the former state will not warrant the operation.

Dr. HERMAN said he had performed this operation in eight cases. All professed themselves benefited at the time they left the hospital. The subsequent history of two of them he did not know. Three were complicated with other conditions, and therefore correct inferences could not be drawn from them. Of the other three, one suffered from severe backache. The operation was a failure so far as repairing the laceration was concerned, for no union took place; but the patient said her backache was removed, and continued to think herself well many months afterwards. Another was a case of subinvolution and chronic metritis, with a lacerated and thickened cervix. All eversion was removed by the operation, and the patient left the hospital saying that she was quite well. Three or four months later all her symptoms had returned. In the remaining case the prominent symptoms were hæmorrhage and leucorrhœa. The operation removed eversion, and the symptoms diminished while the patient was in the hospital. The hæmorrhage returned after leaving the hospital, but not the leucorrhœa. He believed the operation had put a stop to the cervical discharge. In none of his cases had there been any bad results. The American literature on the subject was to his mind somewhat unsatisfactory, because it consisted mostly of general statements. Very few writers had published cases, and the few published cases were mostly complicated ones, in which several morbid conditions co-existed. He thought benefit had sometimes been attributed to this operation which was really due to the cure of other concomitant morbid conditions.

Dr. PRIESTLEY said he quite concurred in thinking that Dr. Playfair had rendered a service to the Society and to gynæcologists in this country by bringing the subject of trachelorraphy before their notice, and for the moderate way in which he had treated it. He was one of those who were quite prepared to believe that Dr. Emmet, with whom the operation originated, had made a useful contribution to gynæcological knowledge, and that his procedure would aid materially in curing some very troublesome cases if properly selected. His experience of the operation was as yet very small, as it was limited to two or three cases, but with his present knowledge he could look back in recollection to more than one instance in which chronic inflammation of the os uteri with endocervicitis was combined with an

old laceration of the cervix, and which obstinately resisted the usual methods of cure. These cases would probably have been readily cured by the operation of Dr. Emmet. Dr. Playfair had alluded to the prejudice which was likely to be raised in this country against the operation under discussion, because it was new and because its value was not yet appreciated. Dr. Priestley thought, on the other hand, that a note of warning should be sounded lest it should be performed with undue frequency, and in cases where a less severe method would effect the cure. In a number of the coloured drawings sent round there was no evidence of laceration at all, they were simply illustrations of ordinary granular inflammation of the cervix; and he believed Dr. Playfair was not prepared to deny that even ectropion might take place when there was no laceration of the cervix. Ectropion and granular inflammation of the os uteri, when associated with the minor degrees of laceration, he had not found nearly so difficult to cure as cases of endocervicitis in the nulliparous uterus. He did not go so far as Prof. Scanzoni, who averred that he had never yet absolutely cured a case of this kind. He believed cases of this kind were now frequently cured, but they were nevertheless very obstinate. He could not agree in thinking that severe lacerations of the cervix, attended with distressing symptoms, were so frequent as they were represented to be by some writers. He had certainly had abundant opportunities of making examinations extending over many years, and he had not neglected the use of the "duck-bill" speculum; but unless he was anxious to magnify every minor fissure into a serious rent he had not often found them, and he believed that the operation was only required in exceptional cases. That there had been an exaggerated importance attached to fissures of the cervix, and an undue tendency to operate upon them, was evident from the papers and addresses of American *confrères*. Dr. Gaillard Thomas's name had been so frequently alluded to in the paper and discussion as one who approved the operation, that with the permission of the Society he would read a word of warning on this point from his "Annual Address" to the American Gynæcological Society. After speaking of Emmet's operation as beneficial in its results, and an excellent conservative procedure, he says, "Slight lacerations of the cervix have been an inherent part of the natural process by which man comes into the world, ever since the sons of Eve were born, and probably will continue to be so until the last woman performs her painful function, Just at present a species of surgical corollary seems to threaten humanity in the stitching up of every cervix which goes through this painful but necessary process! If men are still to be born into the world so commonly, and if every man of the future is to inflict upon her who bears him, of necessity, a surgical opera-

tion, then will a new field of industry have opened before the enraptured gaze of the '*jeunesse dorée*' of future surgery! Then will the song of England's humorous poet, 'Stitch, stitch, stitch,' apply to human flesh as well as to baser material." Dr. Priestley pointed out that the operation of trachélo-raphé was both painful and difficult to perform, and records of American journals showed it was sometimes dangerous and produced fatal results. He hoped, therefore, that while Emmet's operation was accepted in this country as a useful addition to the methods for curing some forms of uterine ailment, that it would take its true and scientific place—that it would not be performed with unnecessary frequency—only, indeed, when less severe methods were inefficient, and that it would not become a further addition to the unnecessary torments inflicted on the long-suffering human uterus.

Dr. Wynn Williams thought the Fellows of the Society were greatly indebted to the author of the paper for the very moderate manner in which he had placed the subjects before them, nevertheless he could not quite agree with him as to the simplicity of the operation and the risks which would appear not unfrequently to follow, as in the American journals no less than seven cases of death have been recorded, and numerous instances of metritis and perimetritis. Moreover, he could not believe, in this country at least, that there occurred many cases where surgical interference was required. He (Dr. Wynn Williams) had been on the look-out for such cases ever since the operation was first mooted, and only in one instance had he met with a case where he considered the operation necessary, and this only very recently, and it certainly was a very severe case, as on the left side the uterus was lacerated right up to where the mucous membrane covering the uterus was reflected on to the vaginal wall, extending fully an inch, whilst on the right side it was torn fully half an inch. The patient had been delivered with instruments two years ago and had suffered from all the symptoms already described by the author, and was unable to move about with any degree of comfort. After paring the edges of the laceration, two sutures were inserted on the right side and three on the left. The patient is still in the hospital, and of course it is too early to say what will be the result of the operation; but, on examination, it was ascertained that two sutures on the left side and the two on the right side had so far answered their purpose as the laceration between appeared to be closed, the third, on the left side, had torn out, but there was now no eversion of the lining membrane of the cervix uteri. It should be borne in mind that all eversions are not due to laceration, as he had seen a case this week where it was found necessary to remove two small polypi from within the canal of the cervix, the os uteri being fully an inch in width,

and the lining membrane greatly everted. In conclusion, he believed that British gynæcologists would meet with but few instances of laceration of the os uteri that could not be remedied without having recourse to the knife as compared with our American *confrères*. The cases in this country must be few and far between.

Dr. BANTOCK said that while he believed there was a certain field for this operation, he could not but think that the importance of the subject was exaggerated, both as to the effects of laceration and the necessity for operation. He had long been on the look-out for a suitable case for operation, and about fourteen months ago he thought he had met with such a case. He had the benefit of the counsel and advice of a very intelligent American practitioner, who had not only seen the operation performed many times and by different hands, but had himself done it. The patient was a woman, æt. 30, who, after the fourth pregnancy, had suffered from dysmenorrhœa, menorrhagia, leucorrhœa, and constant bearing down, for which she had been treated in the country without any benefit. There was distinct bilateral laceration, the exposed and everted cervical mucous membrane was excoriated, and a copious muco-purulent discharge issued from the os. The cervix was enlarged and the uterus generally subinvoluted, with marked congestion. His friend confirmed the speaker in his opinion that preliminary treatment was necessary, and accordingly after a thorough examination had been made in the orthodox way, a small quantity of blood was drawn from the cervix by several punctures, iodine was applied, and a glycerine tampon was left in the vagina. After the removal of the plug the hot douche was employed twice daily. In two or three days the patient was found complaining of pain in the sacral region, and on examination a small swelling was found behind and on one side of the cervix, but whether inflammatory or sanguineous could not be affirmed. The patient was kept quiet in bed, and, in addition to suitable constitutional treatment, the hot douche was used twice a day. In the course of about six weeks the swelling had disappeared, the cervix had returned to its normal size, the lips were no longer everted, the leucorrhœa ceased, and the patient's second period assumed a more healthy character. After a fortnight's stay at a convalescent home the patient returned home in very good health. The proof of this was to be found in the testimony of her husband, who was full of gratitude for the benefit received by his wife, in her ability to discharge her household duties, and most of all, in the fact that she has very recently given birth to another child and is now quite well. He was therefore bound to believe that there was some exaggeration in the statements of some of our American brethren as to the necessity for this operation, and he could not refrain from

quoting from a very interesting paper by Dr. Goodell, in the January number of the 'American Journal of Obstetrics,' on 113 cases of this operation. Dr. Goodell, while claiming credit for the absence of a single death, said: "Of the beneficial results of trachelorapby, I must candidly admit that I am not now so sanguine as at first. Cases have disappointed me; but then, on the other hand, I have, undoubtedly, operated on some cases unnecessarily. The broad rule may be laid down that when marked ectropion exists, associated with enlarged Nabothian glands, with leucorrhœa and menorrhagia, the issue of the operation will be a happy one. In such cases I have had capital results. . . . . When, however, I have operated on a tear without ectropion, or merely on account of cicatricial tissue in the angles of the fissure, I have met with some bitter disappointments. But I now know better when to operate; and this fact I have learned, that nervous exhaustion and spinal irritation will evoke symptoms which others, as well as myself, have referred to slight cervical tears, but which are in no wise dependent on these lesions."

Dr. Murray called attention to a case of death reported in the 'American Journal of Obstetrics' for October. Operating when there was a suspicion of malignant disease appeared to him a curious idea. He could not remember of any cases of his, past or present, in which this operation would have been justifiable. By using the duck-bill speculum the posterior vaginal wall becomes much distended and draws down the os uteri, thus magnifying very greatly any little tear that might exist. Diagnosis could more fairly be made by using Fergusson's speculum.

Dr. Heywood Smith said that the subject brought before the notice of the Society was of great importance, not because it was a mere question of whether this or that operation should be performed or not, but because it involved the question of the right pathology in a given lesion, and of a correct diagnosis. The subject had been introduced to the profession in England recently in the discussion on Dr. Henry Bennett's paper read before the Medical Congress last year, and reported in the fourth volume of the 'Transactions.' Dr. Bennett then maintained that many of the symptoms referred to as due to laceration of the cervix uteri were really due to induration following chronic cervicitis, which Thomas called areolar hyperplasia. Dr. Bennett had lived to see his treatment, which was at first severely criticised, successfully carried out, and acknowledged to be founded upon correct pathology. In the discussion on that paper, Dr. Playfair advocated with considerable confidence Dr. Emmet's operation, and he was followed by several well-known American gynæcologists. Dr. Goodell, of Philadelphia, maintained that caustics did not

cure ectropion, but Dr. H. Smith stated that many cases existed of ectropion that were not referable to fissure of the cervix but to the condition that arose from chronic cervicitis. He agreed with the statement quoted by Dr. Priestly that every parturient woman had some slight fissure of the cervix; for in all cases the nulliparous os, originally circular, was by parturition changed into a transverse slit, producing an anterior and posterior lip. In cases where chronic cervicitis followed parturition, there was also a condition of subinvolution and a proliferation of the connective tissue of the cervix. This condition, if it became extensive, produced an indurated bulging nodule in one or both lips, which, increasing, led to unavoidable ectropion by the natural pressure of the lips on each other. This condition could easily be cured by destroying the induration by means of potassa fusa, or by Paquelin's cautery at a white heat, or by puncturing the induration with a sharp white hot point. In these cases the cervix contracted and was eventually restored to a perfectly healthy condition. When, however, a deep fissure existed this state also led to subinvolution, for doubtless the lesion of the vessels and lymphatics of the cervix interfered with proper involution, and led to the same indurated deposit or areolar hyperplasia. In operating on these cases of fissure, Emmet laid it down as necessary that a tract of tissue should be left in the centre of the mass unvivified in order to form the new cervical canal; but in the cases above referred to, where a large, hard nodule existed, it was necessary to excise the whole of the hard tissue, and so it became imperative to maintain a patient cured by the passage of a thick sound during the healing process. He wished to draw attention to Dr. Goodell's observations that cancer often followed upon the condition of red, raw, irritable surface that usually existed in these cases of fissured cervix. But Dr. H. Smith contended that it was highly erroneous to call these cases of "ulceration." They were more allied to the so-called eczema of the nipple and areola, that, as had been shown by Dr. Thin and Mr. Butlin, eventuated in deep cancer of the mamma. This condition of malignant papillary dermatitis seemed to him strictly analogous to this condition of the cervix uteri, and for this reason, especially where there was an hereditary history of cancer, it became of the greatest importance entirely to destroy such growth. Dr. Nelson, of Chicago, had insisted, at the Congress, on the importance of operating immediately after labour; but he (Dr. H. Smith) would ask the Fellows if they had had any experience of such cases, as it must be obvious to all that there were considerable practical difficulties to performing the tedious operation of suturing the cervix after a labour when the woman should be kept quiet and free from all disturbing influences. Dr. Pallen, of New York, had referred to the benefit of operating

with the potassa fusa, and Dr. H. Smith would only say that for thirty years that treatment had proved eminently successful at the Hospital for Women. Dr. H. Smith was entirely in accord with Dr. Playfair in his urging a fair trial of the operation, and regretted that Englishmen were so slow to take up new things, *teste* the electric light and the telephone. He would state that the operation had been frequently performed at the Hospital for Women with success, both as to the reparation of the lesion and as to the relief of the symptoms. Dr. Savage had evidently misread Dr. Thomas's statement, which was that the operation was contra-indicated in those cases where parametritic inflammation had existed, and not where the inflammation was situated only in the cervix. The President was logically in error when he referred to one set of operators as slitting up the cervix and others stitching it up, as being a *jeu d'esprit*—the two operations were undertaken for entirely different diseases.

Dr. Fancourt Barnes drew attention to a sentence in Dr. Playfair's paper, in which it was stated that Drs. Edis and Galabin were the only British authors who had as yet described Emmet's operation in their text-books on midwifery. This was not so. In the second edition of Dr. R. Barnes' work on 'Diseases of Women,' published in 1878, the operation of Emmet was fully described, and Dr. Barnes therewith states that he had several times successfully performed the operation himself. Dr. Fancourt Barnes first saw the operation performed five years ago in a case in which there was bilateral laceration of the cervix with ectropion and enlargement of the Nabothian glands. In his opinion it was in this kind of case and this kind alone that the operation was necessary. Where there was only unilateral laceration, the parenchymatous thickening of the cervix could be more readily dispersed by ignipuncture with Paquelin's cautery than by resorting to such a difficult operation as Emmet's really was. He remarked that Goodell had done the operation 113 times without a death and with only two instances of perimetritis following.

Dr. Carter had had some slight experience of the operation, having performed it six times. He had selected the most severe cases, where the cervix was lacerated on both sides and to the vaginal insertion, and where there was great ectropion and granulation of the mucous membrane. The patients had done well, four of the cases had been seen several times since the operation, three to four months previously, and they had expressed the great benefit they had received from the operation, the cervix uteri presented almost a virginal appearance. Dr. Carter thought laceration of the cervix to a slight extent very common, but cases requiring this operation were not so frequently met with. He had seen very severe lacerations on which he would not think

of operating, as there was no ectropion or granulations to any marked degree. He had been struck with the number of cases of lacerated cervix complicated with displacement of one or both ovaries. Two of his cases were thus complicated, and in one the ovaries being still misplaced gave rise to great pain, &c., so that the benefit from the operation was not so apparent.

Mr. Knowsley Thornton wished to call attention to one point which seemed of considerable interest in relation to epithelioma of the cervix. Remembering the common situations attacked by epithelioma in other parts of the body, and the frequency with which its appearance could be traced to local irritations, it seemed not unlikely that fissure of the cervix with eversion of the mucous membrane might be a predisposing agent in the production of the disease in this situation; and if it could be proved that this was the case, and that Emmet's operation prevented it, a most important field for the operation existed, and one in which all surgeons would gladly avail themselves of its aid in fighting this terrible scourge. It appeared to him that a careful examination of the parts removed, such as had been made by Dr. Galabin, might aid in settling this point. If he understood Dr. Galabin correctly, the villous processes were found normal in the case of recent fissure, but deprived of their epithelium by the friction to which they had been subjected in the case of longer standing. A process which would rub off and destroy the epithelium in one patient might in another predisposed to malignant disease produce epithelioma. It would obviously be a very difficult matter to obtain any reliable evidence on this point, but attention once generally directed to the matter, a sufficient number of carefully observed cases might be collected to settle it.

Dr. Edis fully concurred in Mr. Thornton's remarks as to the predisposition to malignant degeneration in cases where the cervix had been severely lacerated. Modern researches seemed to point to the probability of this injury being not infrequently followed by epithelioma. If these were confirmed by future observers, there was unquestionably scope for Emmet's operation, which was apparently condemned most by those who knew least about it.

The President could not concur with a view which had found expression, that tracheloraphy was one of the greatest advances of modern gynæcology. It might turn out to be an advance, but, compared with such triumphs of laparotomy as Mr. Bantock and Mr. Thornton had exhibited in the specimens laid before the Society that evening, and admitting all that was said for it by its enthusiastic promoters, tracheloraphy was a small affair. He was not in accord, meantime at least, with the paper which had been read. A split condition of the cervix was said to be

attended with protean symptoms and disorders. Not long ago ulceration held this place in producing the protean disorders, then displacement, and now the conditions for tracheloraphy. He did not believe this, regarding all three as minor disorders, whose cure or attempted cure was often the worst part of them. Thousands of women were there with ulcerations, displacements, and split cervixes, to attest the utter insignificance, in a vast number of cases, of such lesions in themselves. The protean disorders were accompaniments not consequences, in most cases, but the cure of the lesions supposed to cause them might, nevertheless, be a valuable service to patients. Again, ectropion was misrepresented. If a special speculum and special manipulation, with tenacula or otherwise, were required to show an ectropion, then that was an artificial ectropion produced by the physician, not an ectropion that was there before he began his demonstration. Every speculum tended to produce ectropion, to show the inside of the cervix. He did not regard the profession as having hitherto mistaken ectropion for so-called ulceration. In the models placed on the table as of ectropion, there was no such condition, but old-fashioned so-called ulceration. Ectropion was a condition easy to discover and diagnose. No doubt you had often to produce artificially ectropion in order to see the inflamed or catarrhal interior. Such cases, whether with or without ectropion, were generally, almost invariably, easily cured by old plans, and in cases with hypertrophy a good old plan was the well-known use of caustic potass. This caustic took out a bit of the cervix, as Emmet's operation did, and he believed that if the lacerations were disregarded in the Emmet cases, and a new one made by cutting out a bit of the cervix, the cures would follow just as well as after tracheloraphy. The reference to the historical fact that while a few years ago gynæcologists were busy splitting the cervix and keeping the wounds from healing as a curative measure in many cases, now they were sewing up the cervix, was passed over as "mere facetiousness," or a "*jeu d'esprit*;" but he was sure that it was much more, that it was weighty with strong presumptions against both proceedings as generally practised. For his own part he regarded tracheloraphy as *sub judice*, and he was not impressed in its favour by what he had heard. The best contribution to the subject laid before the Society that evening was the eight cases of Dr. Herman, and they were not encouraging to tracheloraphists. He had not done tracheloraphy, but he had seen the most exaggerated lacerations of the cervix interfere in no degree with health, comfort, or fertility, and he knew of two cases which were now in enjoyment of good health for whom he had discommended tracheloraphy, and it was not done.

Dr. PLAYFAIR said that the discussion on his paper had been

very much what he anticipated. The subject had been so little studied in this country that it was not to be expected that the Fellows could contribute much information from their own personal knowledge, and to many of his criticisms he might fairly take exception on the grounds stated in his paper, viz. that they were made by those who had no personal knowledge of the treatment, who had never either performed trachélo-raphé or seen a case, and who, consequently, could only speak from theory, very often from theory which was deeply tainted by prejudice. He should make no attempt to reply in detail to the various speakers. Dr. Savage made one of his usual caustic and amusing speeches. The only point of it he should criticise was that in which he said that both Drs. Thomas and Emmet recommended that trachélo-raphé should never be performed except on a healthy cervix. Now, he (Dr. Playfair) had very carefully studied their writings, and he should be inclined to think that Dr. Savage must have evolved this out of his own inner consciousness; for if there was one thing above all others they thought, it was that trachélo-raphé was only adapted for cases in which the cervix was in a morbid state. Dr. Priestley had read an amusing extract from Dr. Thomas, warning his hearers from resorting too frequently to this operation, a warning which was certainly required in America. Like many such extracts, however, it had been divorced from its context, and Dr. Priestley had forgot to say that Dr. Thomas thought so highly of the operation in suitable cases that he it was who described it as the greatest improvement in modern gynæcology. Dr. Matthews Duncan had very severely criticised the operation. He (Dr. Playfair) wished to speak of him with all the respect due to his pre-eminent position as a scientific obstetrician, but it were impossible not to see that Dr. Duncan was deeply prejudiced against the operation, which he confessed he had never seen nor practised, and moreover, it was quite obvious that he had not yet made himself familiar with the use of the duck-bill speculum and tenacula, by means of which alone these lacerations could be discovered. This is quite clear, for he spoke of the duck-bill speculum producing ectropion, and the tenacula separating the lips of the cervix. Now, a duck-bill speculum never, under any conceivable circumstances, could do what Dr. Duncan proposed, since its sole action is to draw back the posterior vaginal wall, while the tenacula are used not to separate, but to draw together the lacerated lips of the cervix. He did not doubt that when Dr. Duncan took the trouble really to study the subject fairly and impartially, he would alter his opinion upon it. Beyond doubt the operation could not claim to be of the same brilliant character as those which had produced the specimens on the table to which Dr. Duncan compared it, no one had ever spoken of it in such terms, but there were

hundreds of women who led a life of daily and hourly suffering, incapacitating from all enjoyments, and making their homes miserable, who had no such tumours to explain their illness. If by such an operation as this, comparatively slight though it was, some of these unhappy cases could be cured, then, he thought, the operation might be fairly called a great improvement in gynæcology, even though there were nothing like Shylock's pound of flesh to show as its result.

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APRIL 5TH, 1882.

J. MATTHEWS DUNCAN, M.D., F.R.S. Edin., President, in the Chair.

Present—43 Fellows and 5 visitors.

Books were presented by Drs. George and F. E. Hoggan, Dr. H. W. Acland, Dr. A. Jacobi, the Société des Sciences Médicales de Lyon, and Professor F. Macari.

James Robertson Crease, F.R.C.S. Edin. (South Shields); Upendra Krishma Dutt, L.R.C.P. Edin. (Dublin); and George Snell, L.R.C.P. Edin. (Herbice); were declared admitted Fellows.

The following were proposed for election:—Charles Percy Barlee Clubbe, L.R.C.P. Lond.; Frederick William Coates, M.D. Edin. (Salisbury); William Richard Dambrill-Davies, M.R.C.S. (Sandbach); Robert James Hutton, L.R.C.P. Edin; Henry James Leonard, M.B. Dub.; W. A. Meredith, M.B.; Louis Parkes, M.B.; Frederick Henry Spooner, M.D.; Charles Grove Young, M.D.

FŒTAL MONSTROSITY.

DR. ROUTH showed for Dr. OSWALD a specimen of fœtal monstrosity.

K. F—, æt. 26, servant, was admitted into the Lambeth

Infirmary February 20th, being in labour pains with first child.

At 7 a.m. (21st) I was called to the case. On examination found the intestines of child presenting, with a membrane leading to the head, high up, and attached to head. As patient complained of very much pain gave her half drachm of Liq. Morphiæ. Called again at 8 30, child just born, intestines first, shoulders, legs, and then head. Child (female) appears to be nearly full time. The first peculiarity is the absence of part of abdominal wall exposing liver and intestines. A membrane attached to cord and adjoining free edge of abdomen is attached at other end to membrane of brain where parietal suture ought to be. The bones of vertex are not present, and the brain is exposed in centre of forehead. The right nostril and portion of lip are slit, giving the appearance of harelip. There is also angular curvature of spine.

The woman was under observation in this Infirmary from December 21st to 31st on account of a strangeness of manner which still continues, though she can hardly be put down as insane. She believes the child to be an eight months one, and states that she fell down some steps in December, 1881, and after that had pains as if a knife was drawn across the stomach. Could not sleep well and had to get up often to walk about. She states now, a fortnight after confinement, that she feels as if a hand were moving in her inside and grasping her and causing her pain. Cannot find any history of insanity in family.

The PRESIDENT would refer Dr. Oswald and Dr. Routh to the last number of the 'Edinburgh Medical Journal' for a closely analogous case of Professor Simpson. He was especially interested in the identity of the fœtal attitude in the two cases, the body being bent laterally backwards, the bending being on the lumbar spine, a very rare condition *in utero*.

OVARIAN TUMOUR.

Dr. John Williams showed a specimen of ovarian tumour, and said: "The tumour I removed on Monday last, and I am indebted to Mr. V. A. H. Horsley, M.B., B.S., for the following account of it:"

The tumour was a multilocular cyst. There were numerous adhesions, most of them recent, on its anterior and upper surfaces. The pedicle was twisted twice, felt hard and rope-like. It contained a dark greenish-brown fluid, which clotted on standing. It soon oxydised on exposure, to a reddish-brown colour, and then gave the spectrum of oxyhæmoglobin, which was readily altered to the single band on reduction by ammonic sulphide. The clot was ordinary jelly of fibrin, of a greenish colour. By shaking it with water there was obtained a greenish-red solution which gave no spectrum, although moderately concentrated. Shaking it with air changed the green tint to yellow red. The colouring matter was not soluble in chloroform or alcohol.

The colouring matter of the original fluid was, without doubt, that of altered blood, partly as hæmoglobin, partly as hæmatin, and perhaps hæmatoidin; the fluid was slightly acid—probably lactic acid (sarco).

The clot contained a large percentage of fibrin, but the total amount could not be measured.

The serum (left after separation of the blood-clot) gave a light flocculent precipitate with HNO_3, also a similar precipitate both in appearance and amount on boiling.

No precipitate was obtained on addition of ·01 per. cent. alkali. The albumens then in the fluid were probably—

(1) Fibrino-plastin.
(2) Sero-albumen.
(3) Ordinary albumen.

No acid albumen.

The fluid was bleached by the action of H_2O_2, but not completely.

The cyst was of a globular form, about 8 inches in diameter, when laid flat. The outer surface was rough and marked with fibrous trabeculæ, opaque white in colour, with here and there pink and hæmorrhagic-looking red patches. Covering the anterior surface are numerous adhesions of delicate fibrous tissue, here and there considerably vascular. Some of the older bands envelope fatty tissue.

The tumour appears to consist of three main cysts with a fibrous septum, in the wall of which other daughter cysts, of variable size, from $\frac{1}{3}$ inch upward in diameter, are developing. In and beneath the lining membrane of the main cyst, about $2\frac{1}{2}$ in. from the pedicle, is another secondary cyst, $\frac{1}{2}$ in. across and $\frac{1}{3}$ in. in depth; it contained a mucoid gelatinous fluid of yellow-green colour. Microscopic examination showed this to be an albuminous fluid partly coagulating, and containing numbers of squamous epithelial cells in all stages of fatty degeneration, scarcely any being found normal. There was also a recent hæmorrhage into the cyst contents.

Pedicle.—The vessels consisted of a large vein with lesser ones, and a few arteries of medium size (radial). The large vein was filled with a grumous soft mass of altered blood, scarcely to be called a thrombus, but evidently of some standing; the smaller veins were filled with recent (black) thrombus. The rest of the pedicle was of a yellowish colour in places, and was composed of firm fibrous tissue.

Scrapings from any portion of the lining membrane of the cyst failed to show other than fatty *débris*, a few oval corpuscles, and altered blood-corpuscles.

Besides the fluid contents mentioned, the cysts contained a mass of yellowish, dirty-coloured substance, resembling disintegrated papillomatous growths. These were in an advanced stage of necrobiosis, but showed an apparent stroma with degenerated epithelial cells superimposed.

The colour of the whole of the inner surface of the tumour showed advanced necrobiotic changes—dusky-purple brown, with masses of degenerated epithelium. There was no evidence of putrefaction, and no organisms were detected.

LARGE FIBROID TUMOUR OF THE UTERUS.

Mr. W. A. Meredith (introduced by Dr. John Williams) showed a specimen of large fibroid tumour of the uterus with both ovaries attached, which he had removed ten days previously by abdominal section from a patient in the Samaritan Hospital, a single woman æt. 33. The tumour, which had been growing for over two years, had latterly begun to cause serious impairment of health, owing to pressure on neighbouring organs. The menstrual flow, which had always been rather free, although never very excessive, had somewhat lessened in amount during the past six months.

The operation was performed with strict antiseptic precautions, the tumour being cut away at about the level of the *internal os* after the uterine neck had been encircled by a Kœberle's wire *serre-nœud*, and transfixed in the distal side of the loop by a couple of stout pins; the stump was then brought outside and fixed in the lower angle of the abdominal wound. The patient had progressed most favorably since the operation and was convalescing rapidly. The tumour, weighing 6 lb., consisted of a very firm, irregularly quadrilateral mass, closely incorporated with the right half and fundus of the uterus, which was seated on the anterior aspect of the growth; the uterine cavity was of normal size. The chief point of interest about the specimen lay in the marked disparity in size of the two ovaries; the right one, enlarged to more than double its natural dimensions, was undergoing fibroid changes, as evidenced by a curiously-shaped semi-pediculated outgrowth springing from its outer extremity; the left ovary, on the other hand, was normal in size, and to all appearances healthy.

Dr. Routh stated that in cases of removal of the uterus, the practical point to be borne in mind was the *keeping the stump out* with a clamp or some other means, precisely as Mr. Spencer Wells was in early days in the habit of treating the pedicle of

the ovary. Dr. Bantock's cases in which he had done so had all recovered, whereas those in which the stump had been allowed to drop into the abdomen had done badly.

Mr. Knowsley Thornton said that the reason why the extra-peritoneal method answered so much better for treatment of the pedicle in complete hysterectomy than the intra-peritoneal was that the uterine cavity nearly always contained septic matter, and as it was opened in all these complete cases, the risk of septicæmia was very great if the stump was dropped into the peritoneum, no matter how carefully it was cleaned or treated. A certain amount of success would attend cases treated intra-peritoneally, especially if the peritoneal surfaces were carefully sutured over the stump, and he had had successful intra-peritoneal cases both with and without such peritoneal suture. The question was, however, which method would in the long run give the best results, and he felt certain that the one adopted by Mr. Meredith in this case was the safest and best. In cases in which fibroid outgrowths were removed without opening the uterine cavity, nothing could answer better than the silk ligature applied in the same way that it is applied to the ovarian pedicle; he had treated a number of cases in this way and they had all done well. Here, again, suture of the peritoneal covering of the stump was advisable when possible.

Dr. Champneys remarked that the protrusion of the cut surface of a fibroid mentioned by Dr. Heywood Smith was not a proof of expansion but of contraction of the outer capsule of the growth.

DERMOID OVARIAN TUMOUR.

Mr. Knowsley Thornton showed a dermoid ovarian tumour removed on March 31st from a young lady in the country. The pedicle was twisted, the cyst had ruptured, and the peritoneum was full of liquid fat; the case had been diagnosed by a very distinguished physician as one of chronic peritonitis. The adhesions were so formidable that at one time Mr. Thornton feared it would be impossible to complete the operation; he had, however, at last succeeded in enucleating it from its bed of intestine, uterine and vesicle adhesions, and the patient had recovered without a bad symptom. The cyst contained a curious solid mass

covered with skin, with long hair, very like a fœtal head, with a projection of bone, from which grew several teeth of various kinds, while from another part of its surface a small projection like an abortive limb, with long nails at the extremity, could be seen. The central part of the mass was solid fat, like an ordinary fatty tumour.

CASE OF EXTRA-UTERINE FŒTATION TREATED BY ANTISEPTIC ABDOMINAL SECTION, WITH REMOVAL OF FŒTUS AND PLACENTA. RECOVERY.

By J. Knowsley Thornton, M.B., C.M.,
SURGEON TO THE SAMARITAN FREE HOSPITAL.

In January of this year I was asked by my colleague, Dr. Percy Boulton, to examine a young woman, who was under his care in the Dorset House Branch of the Samaritan Hospital, with an abdominal tumour of doubtful nature.

J. V—, æt. 28, married two years, and mother of one boy, eight years old; an anæmic, emaciated woman, with a suffering expression.

History.—Was quite regular after marriage till June, 1881, when she became pregnant. At end of July was seized with violent pains all over abdomen, and has had more or less pain ever since, sometimes worse, sometimes better. An abdominal tumour was first noticed in September, 1881.

In January, 1882, she had what was supposed to be a miscarriage, and was attended by Dr. Hill, of Abbey Road, St. John's Wood. Only a sort of membrane (decidua) came away, and an abdominal tumour remaining, Dr. Hill called Dr. Percy Boulton in consultation, and the patient was removed to Dorset House to be more carefully examined and kept under observation. Coloured discharge

was still going on when I first examined her, and continued for a month after the supposed miscarriage. There was serum in both breasts, but they were atrophying. I found a solid elastic tumour in the lower abdomen, extending tolerably uniformly on each side of the median line, and reaching nearly to the umbilicus; above and to the right of this tumour was another, smaller and softer, partly covered by intestines; just at first the two appeared separate, but a more careful examination showed that they were continuous, with a sulcus between them, which was covered by adherent intestines.

Vaginal examination revealed a short hard cervix, with a uterus of normal size, from the upper and right surfaces of which the solid tumour in the abdomen evidently sprang. My diagnosis was multiple fibroids of uterus, the upper portion of the outgrowths surrounded and partly covered by adherent intestines. Though the sound gave a normal uterine cavity, Dr. Boulton determined to make quite sure whether there was anything in the uterus, and dilated the cervix with sponge tents. This procedure proved the normal condition of the uterine cavity.

As the patient was suffering much, and losing flesh and general health, and very anxious for some relief, we decided to transfer her to the surgical wards, with a view to an exploratory incision. The patient had never before had any serious illness; had lost mother and one sister from phthisis, and had father and several brothers and sisters alive and healthy. There was no history of any tumour in the family. On admission into my ward I noted that the lower portion of the tumour had increased in size, pushing the upper portion almost under the edge of the ribs; in other respects the condition remained unchanged.

On February 28th, the patient having been placed under the influence of bich. of methylene by Mr. Doran, I proceeded, assisted by Mr. Meredith, to make an exploratory incision. As soon as the peritoneum was opened I found a red, fleshy-looking tumour, completely covered with adherent omentum, and I had to extend my incision to seven

inches, before I could get it sufficiently cleared to pass my hand round it and explore its pelvic attachments. I found a broad attachment to the top and right angle of the uterus, and the upper part of the tumour so enveloped in adherent omentum and intestine that it was impossible to make out anything about it, except that I could see portions of it, which gave me the impression that it was a cyst of some kind with walls discoloured and softened by inflammation. I now raised the lower tumour out of the abdomen, covered with adherent intestine, and was proceeding to separate this when the patient began to struggle and strain, and the cyst wall at the junction of the two masses gave way and a quantity of grumous material and blood-clot squirted out, fortunately not into the peritoneal cavity; it was immediately followed by a withered fœtal foot and leg, and the nature of the case was clear. After carefully separating parietal, omental, and intestinal adhesions, I brought the whole tumour out, and found a broad fleshy attachment to the right angle of the uterus; this I dealt with partly by enucleation and partly by transfixion and ligature. Having removed the tumour, I found it necessary to remove the greater part of the omentum, as it was all in shreds. The operation lasted an hour and a half, and there was much exposure of intestines and peritoneal cavity to the spray, and much sponging. The uterus and left ovary were normal, but I could find no trace of the right ovary.

When placed in bed the patient was very deeply under the influence of the anæsthetic, the pupils widely dilated, and lips rather blue; vaginal temp. 98·6°, pulse 88.

In the course of the evening the temperature rose to 100·8° and the pulse to 100, and the next morning they were respectively 101·4° and 124. After this they both fell, the temperature varying for some days between 99° and 100°, and the pulse keeping just over the 100. Sickness was unusually troublesome, and on the fifth day I feared obstruction of intestine was coming on. I gave a very large soap-and-water enema, distending the bowel until the patient complained of a dragging and tearing pain high up

in the abdomen, and vomited a considerable quantity of bilious fluid, with a distinctly feculent odour. The result of this somewhat heroic treatment was perfectly satisfactory. She was only sick three times after it, each time a little greenish fluid; this, I believe, was due to some local peritonitis caused by the separation of adherent intestine, the pulse being also quickened up to 118, and I think the temperature would have risen had it not been kept in check by some pounded ice in a piece of mackintosh laid on the head. From this time she began to take food well by the mouth, and on the seventh day the bowels acted naturally and freely. Some local distension and tenderness remained for some days round the spot where she complained of pain during the injection. On the eighth day the temperature was normal, on the tenth I removed all the sutures, found the wound well healed, and she was removed into the convalescent ward.

She was up on the fourteenth day, and left the hospital quite well on the twenty-fourth day after the operation.

Remarks.—The points in the case which appear to me to be of special interest are:

1. The nature of the fœtation. This I shall leave to the last, to be considered along with the examination of the parts removed.

2. The diagnosis. I do not believe it was possible to have made an accurate diagnosis. The cyst containing the fœtus was so completely covered and surrounded by adherent intestine and omentum that it was quite impossible to form any accurate notion as to its nature, while the lower mass was so exactly like a fibroid or solid ovarian tumour that my notion that it was the placenta was contested, even after it had been removed from the body and cut completely across, by some of the most eminent members of this Society.

3. The question of operation. The result certainly justifies the treatment, and there can be no doubt that the rotten sac would soon have discharged its contents into the peritoneum or into the adherent intestine, and in either case the patient's life must have been in far greater danger

than it was after the operation; and her future condition, even had she survived this accident, must have been very different to the restoration to perfect health which she now enjoys. Apart, however, from the wisdom obtained from the result, I strongly hold that the present position of antiseptic abdominal surgery justifies an exploratory incision in any case in which there is an increasing tumour, with suffering and loss of general health.

4. The method adopted when obstruction was threatening. I have generally found that in these circumstances patience and the use of atropine and morphia are our best helps, and many cases have done well in my hands under this treatment. When I determined to try the injection in this case, I had given the expectant treatment a fair trial, and I had become convinced that an opening up of the intestinal canal was absolutely necessary, and had my injection failed I should have reopened the abdomen and searched for the obstruction.

The pain complained of, the nature of the vomit during the procedure, and the after peritonitis, all convince me that the injection did actually tear up some adhesions which were causing increasing obstruction. The number of ligatures applied to intestines and mesentery, and the removal of nearly the whole of the torn omentum, rendered obstruction exceedingly likely. While recognising another aid to our treatment of obstruction after abdominal section, I am still of opinion that it is one of which we should only avail ourselves under very exceptional circumstances, and after the expectant treatment has had a full trial.

We now come to the consideration of the nature of the fœtation. Was it abdominal, ovarian, tubal, or interstitial? I believe it to be tubal, the fœtus being enclosed in its membranes at the fimbriated extremity of the tube, while the placenta was attached nearer its uterine end. This was my first impression while removing the parts, and it has been confirmed by the more careful dissection and microscopic examination to which I have since subjected them. The fœtus would appear to have died about the beginning of the fourth

month, while the placenta continued to grow, and hence at the time of operation presented that peculiar solid mass which simulated a solid ovarian or uterine tumour. I cannot speak with certainty as to the fate of the right ovary, but I think I have detected portions of ovarian structure incorporated with the wall of the tube and the contained placenta. The inflammatory action going on all round the mass and in its substance, as shown by the adhesions contracted by the fœtus to its envelopes, and of the cord to the sac and fœtus, and the effusion of blood into the placenta and its partial organisation, all tend to confuse the parts and render identification very difficult, but I feel certain that the explanation I have given is the correct one. The cord could be distinctly traced into the enlarged and solidified placenta, and the microscopic examination confirms the idea that this is changed placenta.

Passing from the consideration of this special case, I wish to say a few words as to the surgical aspects of extra-uterine fœtation. I would divide all cases into three classes:

I. Those in which it is possible to diagnose extra-uterine fœtation.

II. Those in which there is strong probability that the case will turn out to be one of extra-uterine fœtation, but in which accurate diagnosis is impossible.

III. Those in which, with or without previous suspicion of the condition, sudden rupture of the sac with internal hæmorrhage or other untoward accident, reveals the true nature of the case.

I hold that the present state of antiseptic abdominal surgery renders it not only justifiable to operate at once in Classes I and III, but that it is bad practice not to operate; and that in Class II the rule which I have ventured to lay down in speaking of my own case, which belongs to this class, should be followed, *i.e.* given a doubtful abdominal tumour, increasing in size, with much pain and general loss of health, the suspicion of extra-uterine fœtation increases the urgency for the speedy exploratory operation.

While thus advocating early surgical treatment in extra-

uterine fœtation, I must make two qualifications which will, I know, meet with opposition:

1. I only consider such early operation *justifiable* with the strictest Listerian precautions.

2. I think that the operation should, *in the interest of the patient*, and whenever possible, only be undertaken by surgeons of special experience in the performance of abdominal section. I give as the grounds for this opinion the fact that these operations are likely to be, as in my case just recorded, among the most difficult in this special branch of surgery, and therefore likely to be generally successful only in the hands of those who have had large experience in dealing with the many complications of abdominal surgery.

I am quite aware that this opinion will not be favorably received by many of the obstetricians who are Fellows of this Society, and I am also aware that there are many who will differ from my views as to the importance of Listerian precautions. Both propositions are, however, the result of much study of the subject, of large experience in non-antiseptic and antiseptic abdominal section—in the latter, I think I may claim the largest experience of any one—and of profound conviction; and I therefore do not hesitate to bring them before the Society for discussion, in the hope that such discussion will aid in forming what I believe to be a healthy professional opinion on this important subject. I have purposely avoided all reference to authority, and to the many interesting cases to be found in our 'Transactions,' but I may add that it is especially the careful study of these that has helped in forming the views which I now express.

Dr. Routh said he had understood that Dr. Boulton had made out the diagnosis of extra-uterine fœtation before the patient was sent for operation to Mr. Thornton. And although Dr. Boulton had not allowed him the privilege of seeing the case, he thought the diagnosis was to be made. In his own (Dr. Routh's) paper on a case of extra-uterine fœtation read before the Society he had pointed out that wherever you had a growing abdominal tumour, while a complete decidua had been voided *per vaginam*, that was a case of extra-uterine fœtation. The uterus in such cases

generally got rid of its decidua before the pregnancy was over. Such a detachment of a decidua had been here observed, and indeed insisted upon in the paper. Again, no mention was made of the use of the stethoscope. Had this been used possibly the *placental souffle* would have been heard, if not through the abdomen, through the vagina, with his (Dr. Routh's) vaginoscope, *i.e.* anterior to the period of the hypertrophy of the placenta. To this last condition of the placenta only could the success of its immediate removal here be referred, other cases proving that the removal of the placenta was, under conditions of extra-uterine fœtation, a fatal error. Dr. Routh could not, lastly, concur with Mr. Thornton that obstetricians were not so qualified to operate in these cases as pure surgeons. On the contrary, they had led the van in many such cases, and their diagnosis was more to be relied upon, as in this case. In reply to Dr. Aveling, Dr. Routh stated that it mattered little whether the uterine souffle was due to the placenta or uterine arteries. Wherever a placenta existed there must be large arteries going to it, and a souffle would result.

Dr. Rogers said he had neither seen nor examined the patient from whom Mr. Thornton had removed the extra-uterine fœtation, with placental mass, but he thought that in addition to the evidence of the decidua which had been said to have been thrown off from the uterus, and which Dr. Routh as well as others hold to be diagnostic, a careful examination with the stethoscope would greatly help to throw light on the nature of the case; though he was aware that often fibroids give a souffle like that of the placenta, yet not as marked or pronounced. Dr. Rogers had been consulted in three of such cases, and though at first the state of matters was doubtful, yet after subsequent examinations the true diagnosis was established. In one case he removed the fœtus not interfering with placenta. In the other cases the bones of one came away by rectum, in the other he removed them *per vaginam* at one sitting, while patient was kept under chloroform. The placenta in both these cases seemed to have been gradually absorbed. Should milk be found in the nipples it would, he thought, materially aid in the diagnosis.

The President hoped Mr. Thornton would, in publishing his paper, draw special attention to the persistent life of the placenta after fœtal death and its great hypertrophy. Remarks had been made on the placental souffle as an aid to diagnosis, and this it no doubt was to some extent; but he begged to say he did not believe the souffle was placental, he called it uterine; and, with special reference to the difficulty of diagnosing from a fibroid, he would remind them that the souffle was not rarely heard in fibroids of the uterus. The discharge of an entire decidua vera he regarded, with Dr. Routh, as a valuable diagnostic aid. It

reminded him of a case of rupture of an early extra-uterine pregnancy which he had had before the days of laparotomy in such cases, where the decidua was presented to him as the born abortion. That case most narrowly escaped death from hæmorrhage. After a few days he evacuated *per vaginam* the hæmatocele which formed and found chorionic structures in the bloody fluid. The woman did well and subsequently bore children. Nowadays he would have laparotomy done to get the bleeding stopped.

Mr. Knowsley Thornton could not see on what ground Dr. Routh presumed that the question of extra-uterine fœtation had been neglected. It was fully discussed, but it was impossible to diagnose it, and the physical signs were in favour of fibroid. The President had said exactly what Mr. Thornton would have said as to the uterine souffle; it was commonly present with fibroids, and had it been present in this case would rather have strengthened the fibroid diagnosis. The stethoscope was used, and with negative result. Referring to the case mentioned by the President he would venture to say that such a perfect recovery under such circumstances was a very rare thing, and he thought the President would be ready to acknowledge that with our present lights, abdominal section would have been a much less risk to the patient than the course followed, though he quite admitted that that was the only course at the time.

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MAY 3RD, 1882.

J. MATTHEWS DUNCAN, M.D., F.R.S. Ed., President, in the Chair.

Present.—46 Fellows and 4 visitors.

Books were presented by Dr. Horace Dobell, Dr. H. Vanden Bosch, and by the Medical Society of London.

David Maurice Serjeant, M.D., was admitted a Fellow, and the following were declared admitted:—Hugh Thomas, M.R.C.S. (Birmingham); and Stephen Maberly Smith, L.R.C.P. Edin. (Geelong).

The following were elected Fellows:—Charles Percy Barbe Clubbe, L.R.C.P. Lond. (Lower Tooting); Frederick William Coates, M.D. (Salisbury); William Richard Dambrill-Davies, M.R.C.S. (Sandbach); Robert James Hutton, L.R.C.P. Edin.; Henry James Leonard, M.B.; William Appleton Meredith, M.B.; Louis Parkes, M.B.; Frederick Henry Spooner, M.D.; Charles Grove Young, M.D.

FIBROID TUMOUR REMOVED BY ABDOMINAL SECTION.

DR. BANTOCK exhibited two specimens of fibroid tumour removed by abdominal section. The first, from a patient, æt. 51, weighed over 6 lbs., and was interesting inasmuch as it afforded an example of every form of fibroid tumour

as regarded the relation to the uterus, viz. the subperitoneal or pediculated, the intramural, the submucous, and even the mucous polypus. One of the pediculated tumours was in a state of calcareous degeneration. Hæmorrhage had been a prominent symptom about eighteen months ago, and for about a year even to the production of profound anæmia, but during the last few months the hæmorrhage had decreased greatly, so that the patient had regained even a florid appearance. She had, however, suffered more pain, and to such an extent that she thankfully contemplated the idea of an operation. The operation was one of great difficulty, complicated by extensive adhesion of the cæcum and its appendix and small intestine, and there was a very great drag on the pedicle.

The second, from a patient, æt. 38, a governess, weighed 2¾lb., and consisted of two very hard pediculated fibroids, and several intramural. In this case there had been no hæmorrhage, but the patient suffered from the pressure of the larger mass, which was firmly wedged in the pelvis, and had contracted adhesions to the right broad ligament.

In both cases the pedicle was secured by Koeberle's serre-nœud, and both patients were progressing most satisfactorily. He had now had sixteen cases with only four deaths, a very satisfactory amount of success.

Dr. SAVAGE wished to ask Dr. Bantock whether this manœuvre of his of including all the vessels in the single wire loop, by which he commanded subsequent hæmorrhage from the uterine stump, was more easily effected in cases of uterine fibroid which ascended high up within the abdomen. The new relations to the tumour of the uterine appendages and the broad ligament in these cases resembled, he thought, those observable in advanced stages of pregnancy where, in consequence, the application of the single loop on Porro's operation, for example, was far from being a matter of great difficulty.

Dr. BANTOCK, in reply to Dr. Routh, stated that he had not used the drainage-tube, for the reason that there was nothing to drain. He had often been asked the question—Why did you not drain in that case? and his reply was—If the sponges had come out of Douglas's pouch charged with blood or serum, or both,

after a fair amount of sponging, then the drainage-tube would have been used. In reply to Dr. Savage, he pointed out that the size of the tumour made very little difference. It was the relation it bore to the uterus that was of importance. It was impossible even to guess where the ovaries were to be found; sometimes they were high up in a small tumour and again low down in a large tumour. He preferred to embrace ovaries, with their ligaments and the uterus, in one loop, but sometimes, from the shortness of the ovarian ligaments, this could not be done, and they had to be tied in the usual way separately. This had to be done in one of the cases exhibited at a former meeting. He was anxious to make plain the value of the method of treating the pedicle which he had adopted with such success.

DERMOID CYST OF THE OVARY; MYXOMATOUS GROWTH OF THE PERITONEUM.

Dr. John Williams showed a specimen of dermoid cyst of the left ovary, with myxomatous growth of the peritoneum.

The patient was 50 years of age, married, and the mother of several children. She was admitted into University College Hospital, on February 18th, 1882.

She began to menstruate in her 15th year, and was regular without pain from the first. Six months before admission she noticed an enlargement of the lower abdomen on the right side; this was accompanied by slight darting and bearing-down pains. The abdomen continued to increase in size until her admission. Has had frequent vomiting for four months, and pain at the xiphoid cartilage. Has had a cough for about three weeks.

The patient was very thin, looked emaciated. The abdomen was uniformly enlarged, and measured 1 metre and 2 cent. in circumference at the umbilicus. The superficial veins were distended. On palpation resistance was found more marked over an area limited by the pubes below and a curved line drawn between the anterior superior iliac spines through a point midway between umbilicus and

ensiform cartilage. Over the greater part of this area movements of flatus in intestine could be distinctly felt.

The abdomen was dull from pubes to about an inch above the umbilicus, on the right side to a point midway between umbilicus and anterior superior iliac spine, on left at level of umbilicus almost to axillary line. Both flanks were resonant. Fluctuation could be distinctly felt in dull area, but not across the abdomen. A distinct mass could be felt in the right inguinal region, which appeared to be movable.

The cervix of the uterus was within an inch of the vaginal orifice; the organ was also pushed forwards and anteflexed. The cervix was fissured on each side. The posterior part of the pelvis was filled by a hard mass, continuous with that felt in the right inguinal region. It could not be moved out of the pelvis. The uterus was movable independently of the tumour, and its cavity measured 2½ inches.

Sibilant and sonorous râles were heard all over the chest. After these cleared up, loud friction was audible over both backs.

The urine contained no albumen and no sugar. The abdomen gradually increased in size, and on March 7th it was aspirated. A small quantity of colloid-looking material was obtained, but it was not examined with the microscope.

The sickness increased and the patient lost flesh rapidly, and died suddenly of syncope on May 1st.

For the following notes of the condition found after death and for the accompanying drawing I am indebted to Mr. Victor Horsley, M.B., B.S.

Post-mortem (May 2nd, 1882, 19¼ hours).—*Body* emaciated. Abdomen greatly distended. *Rigor mortis* very well marked.

Abdomen.—The abdomen gave marked fluctuation everywhere on palpation, and on cutting through the thinned walls, the peritoneum appeared to be yellowish and semi-transparent. Immediately it was opened, a large quantity (427½ fluid oz.) of gelatinous myxomatous masses poured out, together with a clear serous fluid. After removal of the floating masses of growth and the fluid, only a few

inches of intestine were exposed to view, the whole peritoneal surface being covered with gelatinous growth.

The masses of new growth were grape-like and of a light tawny, greenish-brown colour where rapidly growing, while in some places they formed by amalgamation larger masses of a darker tint. On cutting them across they were homogeneous in appearance, showing the ordinary gelatinous surface of myxoma. A small portion of the growth when teazed and examined at once showed numbers of large myxoma cells undergoing fatty degeneration.

The growth in the pelvis occupied mainly the left side, where the interval between the fundus of the uterus and the wall of the pelvis was filled with myxoma of a dark brownish colour, while in the right half of the pelvis there was a large solid tumour covered partly by myxoma.

On removing the different abdominal organs the new growth is seen to invade the whole peritoneal surface, passing in between the coils of intestine and round over the surface of the spleen. The upper surface of the liver was quite covered by the new growth, while of the whole peritoneal surface only a few small patches over the sheath of the rectus muscles could be considered as free from the same, and even here too the peritoneum was of a whitish-yellow, opaque colour.

The tumour occupying the right side was then removed with the remaining pelvic organs. It was solid to the feel, obviously a cyst with calcified walls, and to its summit was attached a thick cord of new growth, the centre of which was formed by an old adhesion process of the great omentum. The whole tumour, measuring 5 inches from above down and $3\frac{1}{4}$ inches in breadth, rested between the right broad ligament and the uterus, extending on the one side to the pelvic wall and projecting on the other to the left side of the middle line. In front of the tumour lay the right broad ligament and ovary in fairly normal position, but on the left side there could be found no trace of the ovary, which seemed to be represented by the tumour above mentioned, since the left ovarian ligament passed backwards and to the right

with a semicircular course, and terminated on the tumour, while further the Fallopian tube ran parallel with it, and the fimbriated extremity directed to the side of the tumour. The (left) Fallopian tube was pervious through its whole extent. The ovarian tumour, for such it may be called, consisted of three cysts obviously dermoid in nature, while on the left side and in front was situated a large cyst (No. 4 in Plate I), about 2 inches by $1\frac{3}{4}$, which contained two cavities, one filled with myxoma tissue and the other with a whitish creamy fluid. This cyst (No. 4) could be dissected with ease from the rest of the tumour, and its wall was composed simply of peritoneum, so that its ovarian origin is doubtful, though its age, no doubt, dates since the growth of the dermoid cysts.

These may now be further described, and to consist of one uppermost, a large oval cyst with almost completely calcified walls, and with a small daughter cyst in the wall at its lowest point, then a twin cyst or much smaller cyst lying behind the uterus. The large cyst measures about $2\frac{1}{2}$ inches by 2 inches, and the smaller twin cyst about $1\frac{1}{2}$ inches by $1\frac{1}{4}$. Both these cysts contained a greenish, muddy-looking fluid, which, on standing, became clear and deposited a *débris* of fattily degenerated epithelium and crystals of cholesterin (*vide inf.*).

The lining membrane of all the cysts (excepting No. 4) showed the same structure, viz. a rough yellowish-white fibrous membrane with here and there patches of degenerated epithelium. The large cyst, in addition, contained a quantity of white oleaginous material (sebum), and also growing from its lining membrane were a few hairs of the same colour as the rest of the patient's.

Posteriorly and to the right the wall of the large cyst is composed of calcareous plates united by fibrous tissue, but over the remainder of the cyst-wall the calcification has gone on to complete solidification of the fibrous membrane.

The greenish fluid obtained from the large cyst (3 oz. in amount) gave a faintly alkaline reaction.

Ordinary albumen was precipitated by heat and also by cold

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DESCRIPTION OF PLATE I.

Illustrating Dr. John Williams's paper on Dermoid Cyst of the Ovary.

a a. Left Fallopian tube laid open, with bristle at distal end.
b b b. Left ovarian ligament.
c. Cervix uteri.
1. Large dermoid cyst, covered with new growth and adherent peritoneum.
2. Small twin cyst.
3. Cyst (clear).
4. Cyst filled with creamy fluid, and covered with new growth (? ovarian).
5. Right ovary.
6. Fundus uteri.
7. Vagina.
8. Bladder.
9. Mass of new growth (myxoma) grown from peritoneum of left half of pelvis.
10. Calcified wall of cyst.

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Jas Westmacott direxit

West Newman & Co lith

HNO_3. The fluid on boiling became perfectly solid. No other albuminoid could be detected and the fluid did not reduce copper oxide.

The fluid when extracted with ether gave cholesterin and a fat (not further examined).

The fluid viewed by reflected light was greenish, but reddish-yellow by transmitted light.

The remaining organs, &c., showed the following:

THORAX.—*Serous membranes—Pleura.*—Left: few old adhesions at lower border of upper lobe. Right: adhesions over whole extent of lung. Both pleural cavities empty.

Pericardium normal.

Lungs.—Bronchi here and there congested, contain some mucous parenchyma, vessels, &c., normal.

Heart normal throughout.

ABDOMEN.—Liver: substance rather more friable than usual, otherwise normal.

Stomach contracted, mucous membrane pale with hæmorrhagic patches (probably post-mortem) at pyloric end.

Spleen.—Section shows increase of fibrous tissue throughout, the organ presenting white patches here and there. Density much increased.

Kidneys.—Both very pale, showing fibroid and fatty changes. The left contains a small white nodule in the cortex similar to the patches mentioned in the spleen.

Bladder normal.

Pancreas normal.

Intestines normal.

GENERATIVE ORGANS.—*Vagina* healthy.

Cervix congested, especially the anterior lip. Ovules of Naboth well marked on posterior lip.

Body of uterus.—Mucous membrane of cervix and fundus uteri is extremely pale.

Microscopical examination.—New growth examined in fresh state showed flat myxoma cells, referred to above. After hardening in Müller's fluid many of these cells appear as fusiform corpuscles, with oval nuclei and granular protoplasm; some with numerous branches, and in many cases

such branches communicating. The protoplasm of cells in many places showed fine fat granules, and stained a purple colour with hæmatoxylin. The mucoid basis of the tissue stained bluish-purple with the same reagent, and is for the most part homogeneous, but here and there appeared granular, and with bright spots. Running through the growth everywhere were thin trabeculæ of delicate connective tissue; where consisting of true fibrous tissue, these were obviously the remains of peritoneum, but the ground substance also showed a fibrillated condition like fibrin coagulated by bichromate of potassium, and thus simulating cell processes.

The above description was taken from specimens stained and mounted in glycerin. Sections treated with alcohol showed nothing additional.

The peritoneum was considerably thickened (where the new growth takes origin) by lamellæ of connective tissue, between which were spaces filled with the coagulated mucoid substance, which here and there enclosed leucocytes.

The growth was not vascular, if we except small vessels running in the remains of the peritoneal tissue. The capsule of the liver was thickened where the new growth was seated on it, and it in some places showed congestion, and in others advanced fatty degeneration, while many of the cells contained bile pigment.

FŒTAL MONSTROSITY.

Dr. Maillard Coffin showed a specimen of fœtal monstrosity. Mother about twenty-four hours in labour; footling; about four gallons of liquor amnii; says she had a fright about three months ago. Child about a span and a half in length, and about eight months. Head small, eyes prominent, nose somewhat flattened, mouth open, and does not seem to close on pressing inferior maxilla. Tongue only just recedes on pressure behind the alveolar border.

The lower jaw recedes. Below the lower border of the inferior maxilla is a slight sulcus, and beneath this is a swelling, the thymus gland: under this is a flattened chest. Laterally, slightly in advance of a parallel line in front of ear, is the shoulder-joint, the scapula seemingly fixed on laterally to the thoracic wall. Cord attached in normal position. Legs natural. The head is tilted back, with face almost looking upwards. The posterior fontanelle communicates with an aperture through the skin, through which on birth brain substance oozed. The spine is small, and curved anteriorly. There seems to be no coccyx, the anus corresponding with the normal position of that bone.

Post mortem.—The pectorales major and minor in normal origin and insertion. Deltoid origin from inferior maxilla, insertion normal. Supra-spinatus attached to lower border of lower jaw. Ext. oblique muscle of abdomen attached to clavicle. The inferior maxilla had a joint corresponding to the symphysis. Cleft in soft palate, slight fissure of hard. The vertebral column consists of three bones. Between first and second vertebræ (whether cervical, dorsal, or lumbar) is an aperture leading into the cranial vault. These two vertebræ are fused into one.

Posterior portion of occipital bone wanting, and the vertebræ articulating with the basilar portion. The ribs articulate with these two bones, and move down perpendicularly. Sternum wanting. The opposite ribs articulating with one another. The third vertebra representing a rudimentary sacrum, with which articulated the ossa innominata, the axis of the pelvis being nearly horizontal. The anus opening between the two posterior superior angles of the ilia.

The vagina opening where the normal anus would be. The heart enlarged, particularly right auricle and ventricle. Lungs small and collapsed, but have contained air. Stomach normal. Liver normal, but small in proportion to other organs. Spleen normal. Kidneys large; suprarenal capsules large, apparently normal. Intestines, bladder, and uterus normal. Upper portion of spinal cord compressed

where the two vertebræ seemed fused together. Brain normal, large olfactory bulbs.

The child lived one hour and a half, breathing and heart beating well.

ON THE CORPUS LUTEUM.

By Dr. W. A. Popow, of Pensa.

(From the Laboratory of the Gynæcological Clinic of Prof. Slawjanski, at the Medico-Chirurgical Academy of St. Petersburg.)

(Communicated by the President.)

The corpus luteum is of great importance in purely scientific obstetrics, as in connection with the transmigration of the ovum, and also in relation to state medicine.

When making microscopical investigations of the ovary in the clinic of Prof. Slawjanski two interesting cases bearing upon the corpus luteum came under my notice.

Case 1.—On the 7th of May, 1879, the body of a prostitute, æt. 21, who had poisoned herself with prussic acid, was examined in the post-mortem room of state medicine. At the examination prussic acid was found in the stomach.

The sexual organs were in the following condition:

The vagina somewhat dilated. The os uteri of virgin form. The uterus normal in size, its mucous membrane thick and red. The ovaries increased in circumference, the measurements of the right being—length 4·5 cm., breadth 2·7 cm., thickness 1·5 cm., circumference 6·7 cm. On section cystoid formations were seen, which under the microscope appeared as follicles of different ages and sizes. The left ovary was much heavier and thicker than the right; its measurements were—length 4·6 cm., breadth 2·5 cm., thickness 2·4 cm., circumference 8 cm. On its posterior

surface, 2 cm. from the inner end, was a corpus luteum possessing the following characters:—Depth 1·7 cm., breadth 1·8 cm., thickness 1·3 cm., thickness of deepest part of yellow layer 0·9 cm. Microscopical sections of the corpus luteum showed that the centre and parts radiating from it consisted of fully-formed connective-tissue fibres, with here and there some spindle-shaped elements. The fibres were separated from each other by extravasated blood. The yellow wrinkled border consisted of three different structures—large yellow cells, fine connective-tissue fibres, and blood-vessels of different sizes. The yellow cells possessed all the characteristics described by authors in the cells of the true corpus luteum. Their long diameter varied between 0·0079 mm. and ·0203 mm. The tissue beyond the yellow layer consisted of connective-tissue fibres and a mass of blood-vessels and lymphatics. Further on the tissue passed into the adjacent stroma of the hilus, where, by double staining with picrocarmine, plain muscle fibres could be demonstrated in addition to the connective tissue and vessels. This description of the corpus luteum agrees entirely with that given by His* and other authors of a fully ripe true corpus luteum during a non-menstrual period. The microscopical examination of the uterine mucous membrane not only negatived the existence of any actual pregnancy, but the condition of the mucosa did not even suggest a menstrual period. We have, therefore, in the above case, a fully ripe true corpus luteum in a woman neither pregnant nor menstruating.

The same occurrence has been observed by Negrier, Benham, Leopold, Dalton, and other authors, but in their accounts we find neither a thorough histological description nor an explanation of the fact.

The authors explain the difference in size between the corpus luteum of pregnancy and that of menstruation by the greater amount of nourishment supplied to the follicle in the pregnant state. In our case it appears to me that

* "Beobachtungen über den Bau des Saugethier-Eierstockes," 'Arch. Mic. Anat.,' M. Schultze, B. i.

prostitution was the cause of an increased amount of nourishment reaching the follicle. The prussic acid poisoning brought about a parenchymatous change of the ovarian follicles, analogous to the change observed by Myschkin* in poisoning with phosphorus and arsenic.

Case 2.—A woman, æt. 41, who had not borne a child for twelve years, died in Prof. Slawjanski's clinic in the year 1880 from gangrene of a fibromyoma of the cervical canal.† In her right ovary we were able to demonstrate histologically the existence of a true corpus luteum in the earliest stage of retrogressive metamorphosis. It contained all the elements of a true corpus luteum in characteristic quantity, the compact yellow layer being much more conspicuous than the central fibrous nucleus. The cells of this layer were in the first stage of degeneration. In the central nucleus finely granular pigment was seen. Besides the corpus luteum two other details of the stroma of the hilus attracted attention. First, between the connective-tissue fibres there were numerous plain muscular fibres, which appeared very distinct after double staining with picrocarmine. The number of these fibres appeared to be greatly increased above the normal, so that the question arose whether a process analogous to that in the neck of the uterus was not going on in the ovary. The second detail was the thrombosis of the vessels both of the outer vascular layer of the corpus luteum and of the hilus. The thrombus itself was formed partly of well-preserved blood corpuscles and partly of finely granular matter containing delicate fibres; the greatest part, however, consisted of large cells of different forms and sizes, such as have been described only in the thrombosed vessels of the pregnant uterus by Friedländer, Leopold, and Patenko. The left ovary and part of the right contained Graafian follicles of different degrees of maturity, and also obsolete (verödete) follicles, whose granulation layer was strongly

* Slawjanski, 'Arch. f. Gynaecol.,' B. iii.

† Grammatikatti, "Ein Myoma Cervicis Uteri Cavernosum," 'Arch. f. Gyn.,' Band xvii, Tf. 1.

prominent, as Sinéty has observed in the ovaries of pregnant women.

The ovaries in the present case were thus very like those found during pregnancy. This fact is comprehensible when we remember that the fibromyoma of the cervical canal was as large as the head of an eight months' fœtus and of cavernous structure. The structure of the corpus luteum, the great development of the follicles, and the large-celled thrombus were caused, as I think, by the increased flow of nourishment to the generative organs brought about by the growth of the tumour.

The PRESIDENT said it was important to have the view confirmed that a corpus luteum, with all the histological characters of that of pregnancy, occurred in women who were neither pregnant nor menstruating. He had seen a good corpus luteum, as far as naked-eye appearances went, in an aged woman who was believed to be salacious. He might add that he had more than once dissected cases of pregnancy with complete absence of corpus luteum.

ON THE NATURAL HISTORY OF DYSMENORRHŒA.

By JOHN WILLIAMS, M.D., F.R.C.P.,
ASSISTANT OBSTETRIC PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

A KNOWLEDGE of the natural history of disease—of its course when left to nature, of its modes of causing suffering and death—must always form the basis of medical science and of all valuable and trustworthy treatment. Without such knowledge, it is not possible to treat disease rationally, or in any given case to estimate the effect of any treatment adopted. This is as true of the diseases which come under the observation of the gynecologist as it is of those which fall under the care of the general physician.

In the present state of our knowledge of the diseases of

women, it would assuredly be far better in the future, and probably also in the present, both for suffering women and for medical science, were we to refrain from any special local treatment of a great many of the cases which come to us, of most of those cases perhaps in which life is not endangered and the cause and nature of the affection remains obscure and unknown, to limit our treatment simply to the maintenance and improvement of the general health, and to devote our energies to the observation of such diseases throughout their course and record their progress. By such a method we should acquire at least a twofold knowledge which would prove of paramount value, namely, a knowledge of the course which such affections naturally run, and of the amount of good that may result from general treatment alone. We should, then, in time occupy a position of vantage which has not hitherto been obtained, and which cannot be attained so long as that ancient principle of therapeutics, "We must do something," is acted upon by physicians and surgeons.

Working in the dark is always undesirable and nowhere more than in the treatment of disease, because it is not possible to estimate the evil that may follow it. It would be impossible to calculate the magnitude of the mischief caused by bloodletting and the administration of mercury; and it would be equally futile to attempt to measure the amount of suffering—moral and physical—which has resulted from the practice of various methods recommended for the alleviation or cure of some trifling ailments or functional disorders of the uterus. We are ignorant of, or very imperfectly acquainted with, the natural causes and course of many of these disorders, and our treatment of them is little else than guess-work. Especially is this true with regard to dysmenorrhœa. In proof of this I need only refer to the many and diverse views entertained of its cause, and the equally numerous and diverse methods of treatment practised for its cure. To treat a disease lavishly in proportion to its obscurity is a mode of practice to be unequivocally condemned.

In this paper I propose to attempt a sketch of the natural

history of certain forms of dysmenorrhœa, and, however imperfect the likeness may be, yet I cannot help hoping that it may prove of some service as a stepping-stone to a better knowledge of the subject, and that it may ultimately lead to more rational and less mischievous methods of treatment.

The difficulties surrounding the investigation of the subject are great, far greater than those met with in the study of most of the diseases whose history is best known, such as the acute specific diseases, and the acute inflammatory affections of the lungs, heart, and kidneys. The course of the latter is comparatively short and can be observed from the starting-point to the goal within a definite and limited period. The course of dysmenorrhœa, on the other hand, is extremely chronic, its duration is often co-extensive with menstrual life. So prolonged is it that the whole of its course can rarely, if ever, be witnessed in one and the same subject by one and the same observer. Moreover, its course is liable to be interfered with by treatment, by accidents, and a variety of complicating circumstances which cannot always be eliminated.

In this paper I shall divide dysmenorrhœa into two classes: (1) the primitive, (2) the acquired or secondary.

The primitive form is that which dates from the commencement of the menstrual function. The acquired is not present at the onset of menstruation, but comes into existence in the course of menstrual life, after an interval of painless menstruation. This form may be acquired during maidenhood or in the course of a sterile marriage, or after child-bearing. A very large number of cases of this form arise after, and in consequence of, child-bearing and the motley group of evils which often wait upon it. These I dismiss, together with those which originate in the course of barren married life. Our inquiry is, therefore, restricted to the history of dysmenorrhœa—primitive and acquired during single life. These are the least complex forms, inasmuch as marriage and child-bearing are eliminated.

In consequence of the difficulty—amounting to impossibility—of observing the whole career of many cases of

the affection by reason of its prolonged duration, we are compelled to have recourse to a kind of patch-work in order to sketch it; parts have to be taken from many different cases, all, however, being cases of primary dysmenorrhœa. By examining different cases at different ages, we obtain a series of pictures of the affection at different stages of its course, which, when put together in order, give us a more or less accurate account of it throughout the whole of its duration.

In the investigation regard must be had to several matters.

The pain—its seat, character, duration, its relation in point of time to the appearance of the menstrual discharge.

The menstrual discharge, the rhythm of its appearance, its amount, character, and the changes which take place in it.

The conditions found in the pelvis on physical exploration, conditions of the uterus itself and of the surrounding tissues.

The material for this paper was obtained from observations made in 1944 cases. Of this number 873 suffered from primary dysmenorrhœa, and 22 from acquired pain, though, I think, 11 of these cases only should be regarded as cases of dysmenorrhœa. Of the 22 women, 2 only were married, but they had acquired dysmenorrhœa during single life.

About the acquired form I have very little to say and that I say here.

The pain appeared to be caused by—

Fibrous polypus in	1 case
Fibrous tumour in	4 cases
Perimetritis including ovaritis . .	3 „
Movable kidney	2 „
Hæmorrhoids	1 case
Total	11

The 5 cases of tumour require no comment.

The 3 cases of perimetritis were briefly as follows :—One followed a blow on the lower part of the abdomen during menstruation. One was said to have followed lifting, and

the left ovary was found prolapsed and tender. The third was unaccounted for; the uterus was retroverted and slightly flexed but movable.

In one of the cases of movable kidney the pain was in the right iliac fossa and down the thigh. It might have been taken for ovarian pains, but it was rather high up for it, and it was continuous and not worse at the menstrual epochs. The uterus was not examined.

In the second the pain was over the whole of the abdomen. It came on first with sickness, and the patient was laid up for a fortnight. Since that time she has had pain with menstruation. The hymen was perfect; the uterus slightly anteflexed. The right kidney was freely movable, and its lower end could be brought down to below the level of the umbilicus.

In the case of hæmorrhoids the pain was sacral and continuous, but aggravated during the menstrual flow.

If we exclude these 11, there remain but 11 cases of acquired dysmenorrhæa.

Two of these were not examined; both were young girls of nineteen years of age; one was extremely anæmic and the other suffered from menorrhagia.

In two the condition of the uterus at the time of the dysmenorrhœa could not be ascertained, for one was pregnant, and the other had had several children.

The latter was curiously interesting and instructive, for the suffering was temporary only. She stated that she was pale and out of health at the time; she changed her situation, her health improved, and menstruation became painless.

In one case the uterus was much smaller than normal and lay obliquely in the pelvis, the fundus apparently touching the right ovary, which could readily be felt. This condition was apparently congenital. The patient was markedly anæmic.

In two cases there had been vomiting of blood. One of these, moreover, presented all the symptoms of ulcer of the stomach, for which she had been treated for some months;

she suffered also from menorrhagia. The menstrual suffering was said to have begun several months after the menorrhagia and symptoms of gastric ulcer had set in.

In the second case the source of the blood vomited was not made out. The patient said that the dysmenorrhœa came on about the same time as the vomiting of blood.

In both cases the uterus was of normal shape, size, and position.

In two of the cases the dysmenorrhœa was referred in some way to a previous attack of smallpox.

One of these had had smallpox at seventeen years of age, when she had menstruated regularly for between two and three years. On getting about when convalescent she was attacked with shivering, dizziness, and intense pain in the abdomen. She stated that she became delirious, and was laid up for some weeks with inflammation of the bowels. From that time she suffered from dysmenorrhœa and irregularity (the intervals being too long) in the appearance of the flow. She had been married ten months when I first saw her; she had not been pregnant. The uterus was somewhat small in volume and retroverted. The cervix was long and narrow. There was no physical condition pointing to perimetritis, although it is not improbable that the dysmenorrhœa was the result of an attack of inflammation involving the perimetrium.

In the second case there was backache present for a week before each menstrual epoch since she had smallpox at the age of eighteen. The uterus appeared to be in every respect healthy. The patient was extremely anæmic.

In one of the remaining three cases the uterus was normal in shape, size, and position.

In one, who complained of pain in the ovarian region, back, and pelvis, the uterus was slightly antecurved. No ovary could be felt.

In the third the uterus was acutely anteflexed.

The number—five—in which anæmia was present bears so large a proportion to the total number of cases—eleven—that it seems not improbable that a causal relation exists

between it and the dysmenorrhœa, though with one exception none of these cases supply strong evidence of it.

I would direct particular attention to the smallness of the number of cases of acquired dysmenorrhœa in single women. They number eleven only, and these are all that were met with in 1944 cases, while in the same number of cases primitive dysmenorrhœa was met with 874 times, or nearly 80 times as often.

We come now to the cases of primary dysmenorrhœa. The pain was referred to the lower abdomen, the bottom of the back, and the thighs. Generally it was referred to the back and pelvis; in some to the pelvis alone, in some to the back alone.

There were but eleven exceptions to this, and in these the pain was said to be in one or other ovarian region from the first. The following is a brief account of these cases.

S. S—, æt. 33, eleven years married, sterile, complains of pain in the left ovarian region. She began to menstruate in her fifteenth year, continued regular every four weeks, but one month the flow was abundant and the next a mere show. She says she had pain with it in the left ovarian region from the first. She says she has had two operations performed on the womb. The uterus was movable, normal in position; the cervix was large, rough, the os patulous. The cervix had probably been divided.

J. C—, æt. 40, eighteen years married, sterile, began to menstruate in her seventeenth year, was for some time very irregular, menstruation being absent for months. She became regular before her marriage and has continued so since. Menstruation was always accompanied by pain in the back, pelvis, and left ovarian region. The discharge used to last a week and contained clots and shreds. About her nineteenth year the flow became very profuse, lasting a fortnight each time, for about six months. During the last three years the flow appears for one day, then ceases and returns again. The uterus was retroverted and fixed and

could not be replaced. There was a fissure in the left side of the cervix, and she stated that she had the "womb opened" thirteen years ago.

C. C—, æt. 33, married fifteen years, sterile, began to menstruate in her thirteenth year, was regular every four weeks from the first, but always had pain with it in the left ovarian region and nowhere else. The uterus was in the normal position, the cervix was conical; the sound entered for two and a half inches, and gave great pain as it passed the inner orifice. There was a tender spot to the left of the uterus posteriorly but no ovary could be felt.

E. H—, æt. 36, married nine years, had one child eight years ago, began to menstruate in her twentieth year, was quite regular, but had pain with it in the right groin and back. The discharge was a mere show and never lasted more than one day. Marriage made no difference in this respect. For the last three months it has been getting less and less.

The uterus was of normal size, movable, and retroflexed. The left ovary was prolapsed and tender.

S. M—, æt. 30, married ten years, sterile, began to menstruate about twelve years of age. Menstruation returned at irregular intervals, varying from four to seven weeks. It was very scanty and of a pale greenish colour. It ceased entirely two years after her marriage.

The uterus was drawn to the left, the fundus being fixed close to the left wall of the pelvis. The organ was small, and the sound entered for less than two inches.

M. A. O—, æt. 39, married, had had eight children. The catamenia appeared first about the twelfth year; they returned regularly every four weeks, were abundant, and accompanied by great pain in the left ovarian region. She had a similar pain after her marriage.

The uterus was prolapsed, the cervix outside; the sound entered four inches and a half. The body of the organ

could be felt in the pouch of Douglas, was movable, and very tender.

The remaining five were single.

A young girl, æt. 17, a patient of Mr. Christopher Heath, began to menstruate about two years previous to my seeing her. She was not regular, the flow was scanty and returned at long intervals. She had severe pain with it in the left ovarian region. The uterus was small and fixed to the left side of the pelvis. The sound could be introduced one inch and a half only.

M. D—, æt. 23, single, began to menstruate at seventeen years, and has been regular since every four weeks. The flow is a mere show, and lasts one day only. It is accompanied by severe pain in the left ovarian region.

The examination was made per rectum, and it showed that the uterus was but a thick cord lying in the left side of the pelvis.

E. W—, æt. 27, single, was poorly first at fourteen, has been regular every four weeks. The flow lasted five days and was abundant. She had always slight pain with it in the left ovarian region, but it has been much worse for two months. The pain went through to the back, but not down the thighs.

The hymen was perfect, and the examination was made per rectum. The uterus was drawn to the left side and was less movable than natural.

E. S—, æt. 19, single, has been poorly six times altogether since she was sixteen years of age. Menstruation was very scanty and accompanied by great pain in the left ovarian region and both legs.

E. H—, æt. 21, menstruated first in her seventeenth year. She was at first irregular, going three months between the epochs, but she is now regular. The flow is very scanty, lasts three days, is of a dark colour, and accom-

panied by a great deal of pain. She has had pain in the left ovarian region since she began to menstruate, it is continuous, but gets worse towards evening when she is tired.

The uterus retroverted and flexed, the fundus could only with difficulty be raised out of the pouch of Douglas. The sound entered for two inches and a half. There was no swelling or tenderness on the left side.

I am disposed to place but little reliance upon the six married women as cases of primary ovarian pain, and for the following reasons :—There was in all of them except one physical evidence that they were sufferers from acquired ovarian pain. This consisted in the presence of perimetritis or ovaritis in four of the cases, in a fifth the cervix had apparently been incised, a proceeding frequently followed by perimetritis, though there was no evidence of it in this case. In the remaining case it is not improbable that the ovarian pain was primary, for the uterus was on the left side of the pelvis and only two inches in length. These women were all over thirty years of age, and had doubtless suffered from ovarian pain for a long time, so that they had come to regard it as primary in its origin.

Besides in 111 cases of dysmenorrhœa under twenty-five years of age primary ovarian pain was complained of in four instances only. One of these was not examined. In the three others the uterus was placed on the left side of the pelvis, the left broad ligament being shortened, and in two of them the uterus was undeveloped. So that it would seem that in a case of primary pain referred to the ovarian region we should expect to find an undeveloped uterus with a short broad ligament on the side affected, the pain being really uterine and not ovarian.

In the fifth case, which was under thirty years of age, the fundus of the uterus was in the pouch of Douglas and grasped by the sacro-uterine ligaments, in fact, in a hernia.

To describe pain is not always easy, and the women questioned upon this subject were often not a little perplexed.

In young girls generally it was said to be paroxysmal, "bearing down," "forcing," "sharp, cutting piercing," "shooting cutting," "dreadful griping," "like drawing up into knots," and now and then as a continuous aching with paroxysmal bearing down. Women who had borne children, and consequently had had a larger experience in pain, exhibited more skill in their description. They used in their account of it the same terms as their less-experienced sisters, but frequently stated also that it was like labour pains. In rare instances it was said to be not like labour pain, either because it was less severe, or because it was continuous.

As a rule, dysmenorrhœa lasts in single women throughout menstrual life. In a small proportion of cases, however, it ceases in the course of a few years after the menstrual function has been established.

I have notes of 6 cases in which this happened. In 3 of them menstruation was irregular and painful until the ages of eighteen, nineteen, and twenty respectively, and regular and painless afterwards.

In 2 the function was regular and painful until, but painless after, twenty.

In 1 who had always been regular it was painful for a few months at the commencement only.

Occasionally the pain becomes less severe in the course of years; in some cases it intermits, is absent for one or two periods, and returns again; in others, again, it gradually increases in severity.

This is perhaps the place to refer to the effects of marriage on the pain. Of the 874 cases 681 were married; 581 had borne children, and 100 had not; 73 of the latter had been married three years or more, and may be considered to be sterile, according to Dr. Matthews Duncan's observations.

In 25 of those who had not borne children the pain continued after marriage much the same as it was before; in 4 the pain became less for a time, but got worse again; in 1 it was cured; in 13 it became much worse. So that from

these meagre numbers the influence of marriage, if sterile, appears to be unfavorable.

In 3 menstruation was increased in quantity after marriage.

In 122 of the fertile women the pain disappeared or became much less after childbearing, and in 177 it was not any better. In the remaining cases I have no note on this point.

The proportion of sterile to fertile women suffering from primary dysmenorrhœa is about 1 to 12.

The pain came on usually at the beginning or soon after the appearance of the flow, or at an interval varying from a few hours to a couple of days before, and lasted in the majority of the cases for the two or three first days of the discharge; in some it ceased as soon as the bleeding became manifest. There were some exceptions to this, however, as the following cases show, in which the pain came on before the appearance of menstruation, and continued throughout the flow or for some time after it had ceased.

S. M—, æt. 44, twenty-two years married, fertile, began to menstruate in her tenth year; was regular every four weeks from the first. The flow lasted a week, was profuse and clotty, and accompanied by severe labour-like pains which confined her to bed for two or three days. The pain used to come on a day before the appearance of the discharge, and last a day or two after it had ceased. She had very little pain with it after her marriage.

J. F—, æt. 26, single, began to menstruate in her fifteenth year; was regular every four weeks. About five years ago she was poorly every fortnight for about four months. Menstruation has always been accompanied by sharp paroxysmal pains across the back and pelvis, setting in two days before the beginning and continuing until two days after the end of the flow. The discharge was abundant and free from clots.

A. A. W—, æt. 17, single, menstruated first in her sixteenth year; was regular for a short time only. For twelve months she has been poorly about every four

months only. The discharge was moderate, lasting four or five days, clotty, and accompanied by bearing-down pain across the back and pelvis. The pain begins one day before and lasts throughout the epoch. She has had pain in the left side for three months. It came on after lifting.

The uterus was in the normal position; the sound entered for two inches only; there was a tender spot on the left of the uterus posteriorly, but no ovary could be felt.

M. H—, æt. 21, single, began to menstruate in her seventeenth year; was always irregular, the intervals varying from four weeks to four months. The flow was profuse, lasting a week, and was accompanied by great pain across the back and pelvis, "just like knives sticking into you." The pain came on the second day of menstruation, and lasted throughout the flow. The discharge contained "clots and bits of flesh." The uterus appeared to be normal, slightly curved forwards.

L. P—, æt. 24, single, began to menstruate in her eighteenth year, and was regular every four weeks. The flow was not much, lasted three days, was clotty, and always accompanied by pain across the pelvis. The pain came on two or three days before the discharge, and lasted till it ceased.

An explanation of such cases may perhaps be found in the following:

J. R—, æt. 29, married, sterile, began to menstruate about fifteen. She was regular every four weeks; the discharge was free, lasting six days, accompanied by a great deal of bearing-down pain for the first two days.

The uterus was low down; the cervix conical; the os tincæ very small and round; the body of the uterus was felt posteriorly, and was freely movable. The right ovary was prolapsed, but not tender.

Three days after the cessation of a menstrual flow the cervix was incised, and in the os tincæ and lower part of the cervical canal a degenerated membrane was found. On examination this membrane was found to contain uterine glands, and proved to be a portion of the decidua.

The usual time for the expulsion of membranes is the two or three first days of menstruation, but this case shows that such membranes may be retained in the uterus for some days after menstruation has ceased. Such occurrences tend to explain the continuance of the dysmenorrhœal pain in some instances throughout menstruation and after its cessation.

In some cases the pain is said to begin a week before the menses appear; this is met with, however, not in the younger subjects of dysmenorrhœa, but in those who have suffered for many years.

These cases are to be explained probably by changes which take place in the structure of the uterus, and in its peritoneal covering and its appendages in the course of dysmenorrhœa.

The next subject we have to consider is the menstrual fluid.

The ages at which menstruation commenced in these cases will be seen from the following table:

It appeared	between	9	and	10	years in	5	cases.
„	„	10	„	11	„	13	„
„	„	11	„	12	„	55	„
„	„	12	„	13	„	99	„
„	„	13	„	14	„	120	„
„	„	14	„	15	„	164	„
„	„	15	„	16	„	147	„
„	„	17	„	18	„	68	„
„	„	18	„	19	„	37	„
„	„	19	„	20	„	17	„
„	„	20	„	21	„	5	„
„	„	21	„	22	„	5	„
„	„	22	„	23	„	1	„
„	„	23	„	24	„	1	„
„	„	?	„	?	„	25	„

This gives us a mean average age for the first appearance of menstruation which does not differ materially from that

calculated by Dr. Tilt from 4768 cases observed by Lee, Murphy, Guy, and Tilt.

Menstruation recurred at regular intervals of four weeks from its first appearance in		588	cases.
,,	at irregular (too long) intervals	177	,,
,,	,, (too short) ,,	34	,,
,,	at irregular ,,	36	,,
	?	36	,,
Menstruation was profuse or very much in		166	cases.
,,	moderate or not excessive ,,	54	,,
,,	scanty ,,	106	,,
,,	very scanty ,,	86	,,
,,	varying ,,	5	,,
The fluid contained clots or shreds ,,		305	,,
,,	no clots ,,	114	,,

It will be seen from these figures that about two thirds of all the cases were regular every four weeks, and somewhat less than one-third irregular—the irregularity in the great majority of cases taking the form of infrequent, and in a small number of too frequent menstruation.

It will be further noticed that the quantity or character of the menstrual fluid was noted in 419 cases, or nearly one half the whole number. It was moderate in 54, or about one eighth; profuse in 166, or about two fifths, and scanty or very scanty in 192, or almost one half the number. Again there were clots or shreds in 305 or three fourths of the cases, while none were noticed in the remaining one fourth.

Women frequently state that the catamenial fluid does not contain clots or shreds when the reverse is the case. This I have found in several instances in which I have had the fluid collected. In some cases it is not possible to collect the fluid for examination, because it is a mere show, only a slight, pale, green, or dark stain. Yet in some such cases there is no doubt that membranous shreds are expelled though they remain undetected. I have published one such

case in the 'Transactions' of the Society (vol. xix), in which the decidua was expelled without any appreciable sanguineous discharge.

The following is a case in which the patient denied the presence of clots or shreds in an extremely scanty flow, and yet membranes of considerable size were shed and discovered quite accidentally.

S. R. æt. 23, married three years, sterile, began to menstruate in her fifteenth year. Menstruation returned at regular intervals of four weeks: the flow was very scanty, pale, green, and dark, and lasted a week. It contained neither clots nor lumps. It was accompanied by severe bearing-down pain, which became worse after marriage. The uterus was drawn to the right side, the right broad ligament was shortened, the cervix was long and conical, and the body was slightly anteflexed, with slight tenderness around it.

On Feb. 28th 1879, she came to the hospital and stated that menstruation had begun the previous day, that the discharge was very scanty and contained neither clots nor shreds. I examined her and found the discharge in the vagina scarcely stained with blood, although a small quantity was coming through the os uteri. In the vagina, however, I found a membrane half an inch in length and in breadth, in which uterine glands were discovered. It was about one sixth of the whole of the inner surface of the body of the uterus.

The inference that in other cases presenting symptoms like those met with in this, similar shreds of membranes would be found on examination appears to me almost irresistible.

The presence of clots or shreds in the menstrual fluid is far more common than is generally supposed. They were said to be present in 305 out of 419 cases, and the statements already made justify us in the conclusion that they are present in a still greater proportion of cases.

In this place one point is worthy of note, and that is, women not infrequently state that the menstrual fluid is

scanty or even pale, and that it at the same time contains clots or bits of jelly. I have examined specimens of these and found frequently the clots and jelly to be portions of decidua. In some cases the so-called jelly proved to be mucus. When the menstrual discharge is very scanty the so-called clots in it are usually, I think, decidual shreds; this may be the case also when the flow is abundant, but it is not necessarily so.

The clots and shreds are usually expelled during the two or three first days of menstruation; in rare instances, however, they are passed at any time during the flow, or even a few days after its cessation, as in the case already related.

My notes are not sufficient to enable me to give an account of the changes which take place in the menstrual fluid, but they are of various kinds, depending in part on accidental circumstances, which I have not been able to eliminate, and in part on the change which takes place naturally in the uterus of subjects of dysmenorrhœa.

After a period of regularity the flow may remain absent for months, and may again return at regular or irregular intervals, or it may become increased in amount and recur too frequently, or it may gradually decrease in quantity—the process continuing for years—and become pale, green, or watery. In some instances the shreds and so-called clots become larger, and this may happen although menstruation becomes more and more scanty.

The next subject of inquiry is the state of the pelvic organs, and we require to know the state of these organs at the beginning of dysmenorrhœa and at various stages of its course; for it is by comparing the results found at different periods, that we learn the effects of painful menstruation upon the generative organs.

Hitherto all cases, married and single,—have been utilised, but in this part of the inquiry we must have regard to the conditions met with in single women only, for marriage, be it sterile or fertile, may produce changes in the pelvic organs

which render it impossible to recognise by physical examination the condition originally present.

With a view to obtain results for comparison we will divide the cases into groups according to their ages, each group embracing a period of five years.

Under fifteen years of age there was one case.							
Between	15	and	20	years	there were	50	cases.
„	20	„	25	„		62	„
„	25	„	30	„		38	„
„	30	„	35	„		11	„
„	35	„	40	„		13	„
„	40	„	45	„		8	„
„	45 and above			„		10	„

It is in those under twenty years of age that we expect to find the condition of uterus present originally in primary dysmenorrhœa. These numbered altogether 50; of these 21 were physically investigated. The investigation was made by the bimanual method and the sound; in some by the bimanual method only, and in some this method was conducted per rectum only. The results obtained by the bimanual method alone are not, it is true, of equal value with those obtained by this method combined with the use of the sound; yet in a large number of cases, I think the majority, it gives more valuable information than simple digital examination, though combined with the use of the sound, and I shall have to refer to cases in which the sound showed the organ to be of full length, when bimanual examination proved it to be but a thick cord.

In estimating the condition of the uterus regard must be had to three things, viz. its volume, the length of its canal, and its position. The two former are of essential and equal importance, and it is to be regretted that we cannot estimate the volume with the same accuracy as we can measure the length of the canal. The position of the uterus, although not of the same importance as the other two, may incidentally throw some light upon the subject of our investigation.

In 15 of the 21 cases examined under twenty years of age the uterus was estimated to be smaller than normal.

In 4 of these it was very small; in 5 others the canal measured by the sound 2 in. and in one it measured $1\frac{1}{2}$ in. only.

In one the uterus appeared to be very small, but the examination was not satisfactory.

In the remaining 4 the uterus was estimated to be smaller than the fully-developed organ, but the sound was not used; in one of these the uterus was placed in the right side of the pelvis, and the right broad ligament was evidently shorter than the left.

In 6 of the 21 cases the uterus appeared to be of normal size; in one of these it was fixed by perimetric effusion of probably gonorrhœal origin.

In 2 of the cases only was ovarian pain complained of. In one it was primary, and the case has been already alluded to.

In the second the ovarian pain was secondary and was acquired three months previously. No ovary or swelling could be felt, but there was tenderness on the left of the uterus posteriorly.

I was not prepared for a result of this kind, viz. to find in one half the cases a markedly small uterus and in two thirds of them what seems to be an imperfectly developed organ. The exact estimation of the volume of the organ is not possible, and when the volume varies from the normal in a slight degree only, it would escape detection. Under these circumstances it may be fairly asked, were the six uteri, which appeared to be of normal size, fully evolved, or were they organs which had remained just short of the full evolution?

There were 62 cases between twenty and twenty-five years of age, of which 40 were examined. In 14 of them the uterus was of small size; in 1 of these it was very small; in 1 it was like a thick cord lying in the left side of the pelvis; in 1 it measured by the sound one and a half inch, and was in the left side of the pelvis; in 3 it measured two

inches only by the sound, but the body was no thicker than the cervix; in the remaining 8 it was estimated by bimanual examination to be smaller than normal.

The uterus was of normal size in 18 cases; in 4 of these it was placed obliquely in the pelvis with the fundus to the right, the broad ligament on that side being shorter than that on the left. The uterus was retroverted or flexed in 3, and anteflexed in 1 case. In 2 cases the cervix was conical, 1 of them being a case of anteflexion. In 1 case in which the uterus was small and in 1 in which it seemed normal, the body of the organ appeared to be somewhat rounder than that of the well-formed uterus. This I have met with in several instances, and it may be due to a hypertrophy of an imperfectly developed uterus, consequent upon the action of its muscular tissue called forth by the dysmenorrhœa.

There were 3 cases of hæmatocele, 2 of fibroid tumour, and 3 in which the body of the uterus was somewhat larger than natural. In 2 of the latter the increase in size may have been due to treatment to which they had been previously subjected.

In 19 of the cases there was complaint made of pain in the ovarian region; and in 1 only of these was it stated to have been present from the onset of menstruation.

Between twenty-five and thirty years there were 38 cases, 26 of which were examined. In 4 the uterus was smaller than normal; in 1 of these cases the uterus was two and a half inches in length, but like a thick cord, and in 1 it was placed on the left side of the pelvis.

The uterus appeared to be of normal size in 21 cases. It was placed obliquely in the pelvis with the fundus to the right in 5, and to the left in 3 cases. It was retroverted and flexed in 3, anteflexed in 3, a little large in 1. In 1 case the body was of a rounder form than the normal.

In 11 cases an ovary was prolapsed and tender.

There were 11 cases between thirty and thirty-five years of age, and 10 were examined. In 4 the uterus was small; in 2 of these it measured but two inches in length by the sound. The uterus was large and heavy in 1 and the sound

entered for three inches. It was of normal size in 4 retroverted in 2, anteflexed in 1, and drawn to the left side in 1.

In 5 cases an ovary was prolapsed and tender; in 1 there was perimetritis.

Between thirty-five and forty there were 13 cases; 10 were examined. In 2 the uterus was small; in 1 of these the body of the organ was rounder than usual, and menstruation ceased at the age of twenty-three years; in the second the uterine canal measured two inches in length and the right broad ligament was short.

Ovaritis was present in 3 cases.

There were 8 cases between forty and forty-five, 7 were examined. In 3 the uterus was small; in 1 of these the uterine canal measured less than two inches, and the body presented the round character already mentioned; in 1 (a woman who had ceased to menstruate ten years previously) the uterus was senile and the seat of pedunculated subperitoneal fibroids.

In 2 cases the organ was of normal size, obliquely placed in the pelvis, with the fundus to the right in one, to the left in the other.

Three cases were subjects of fibroid tumour. One was the subject of ovaritis.

There were 10 cases of the age of forty-five and upwards, of which 7 were examined.

In 2 cases the uterus was of normal size, in one of which it was placed obliquely in the right side of the pelvis.

Two were the subjects of fibroid tumours, 2 of prolapsus and 1 of cancer of the ovaries.

General Remarks.

The condition of uterus present in primary dysmenorrhœa appears to be imperfect development. This was present in two thirds of the cases examined under twenty years of age, that is, during the first five years of menstrual life: and the

same condition was presumably present in the remaining third, as imperfect performance of function at the beginning of the active life of an organ is at least suggestive of imperfect development of that organ. A similar state of uterus was diagnosed in three eighths of the cases examined between twenty and twenty-five. This difference between the two periods may be said with some reason to be due to the natural development of the organ after the age of twenty, and I have no doubt that this is in part true. The uterus should, however, be fully developed before the twentieth year of life, and I think it probable that some of the difference should be ascribed not to the cause mentioned, but to a true hypertrophy of an organ whose growth has been arrested just short of full evolution, the hypertrophy resulting from the muscular action called forth at every epoch in the form of dysmenorrhœal spasm.

There are certain facts which speak for this view. The first is that in some of these cases the body of the uterus is more round than that of the typically evolved organ, and this is more especially the case on the anterior surface. I believe this rotundity to be the result of hypertrophy, because I have met with it not in early but in advanced periods of dysmenorrhœa, and in uteri the canals of which measured 2 inches only, as well as in those in which it measured fully 2½ inches or even more.

The second fact is the frequency with which the uterus occupies an oblique or lateral position in the pelvis, owing apparently to a short broad ligament on the side to which the uterus is displaced. This was found 16 times in 86 cases under thirty years of age. The short broad ligament is not the result of contraction in consequence of inflammation occurring after puberty, for we know that inflammation attacks the left far more frequently than the right side of the pelvis, while in these cases the short ligament is found twice as often on the right as on the left.

The third reason for the view stated is the frequency of irregularity, scantiness of discharge, or some abnormality of the menstrual function in addition to the dysmenorrhœa.

This it is true may be accounted for in various ways, and I do not lay great stress upon it, although in conjunction with the other reasons mentioned it is not without weight.

The first two facts seem to me to point directly to a state of imperfect development.

In the third quinquennial period of menstrual life—twenty-five to thirty—we find a still smaller proportion of small uteri 4 only in 26 cases. We find, however, 9 cases in which the organ was placed obliquely in the pelvis, the fundus being to the right in 5 and to the left in 4.

Between thirty and forty years there were 5 small uteri in 17 cases, and one case in which the right broad ligament was short.

Fourteen cases of forty years and upwards were examined. Among these were found two small uteri; these were placed obliquely in the pelvis, two to the right and one to the left.

It appears, then, that one result of dysmenorrhœa is a slight hypertrophy of the body of the uterus.

In some cases the tissue of the organ becomes softer than natural. Whether this be the result of dysmenorrhœa, or an associated condition, I cannot say. It is observed in the younger subjects and is often associated with profuse menstruation. In other cases the uterus is much harder than natural and the cervix cuts like cartilage. This is seen after years of suffering in organs which are rather below the normal size, and is generally if not always associated with scanty menstruation. Other cases present an eversion of the mucous membrane of the cervix, simulating an erosion or the so-called ulcer. This is found, in so far as I know, after many years of dysmenorrhœa, and I have never met with it in conical cervix with small os tincæ. It is a condition which reminds one of hæmorrhoids.

There is one other lesion caused by dysmenorrhœa which I would mention, namely, ovaritis and perimetritis. This was observed in a large number of cases, but in one only under thirty. It was due to a variety of causes but in some it appeared to result from the dysmenorrhœa. I do not wish

to pursue this subject further, as I hope to treat of it on another occasion.

A question naturally arises here. What relation, if any, exists between the separation and expulsion of shreds of decidua and the clots and the menstrual pain? The pain is present usually just before the appearance and during the two or three first days of menstruation, but it may continue throughout and for a few days after menstruation has ceased. From the commencement of bleeding in the uterus to the appearance of the blood at the vulva, a period of twelve hours or more elapses. I have had but one opportunity of verifying this. In that instance I found a sanguineous discharge in the upper part of the vagina which did not appear externally until twelve hours afterwards. The clots and membranes are expelled usually during the first two or three days of the flow, but as I have shown, they may be retained in the uterus until a later period, and even until three days after it has entirely ceased. This would favour the view that a causal relation exists between the separation and expulsion of these masses and the menstrual pain. The term membranous has been applied to that form of dysmenorrhœa in which the decidua is shed as a perfect cast of the uterus, or in large pieces that can hardly be overlooked, but it can with equal propriety be applied to very many, perhaps most, of the cases which we have been considering, and the restricted use of it has been due to ignorance of the fact that decidual shreds are so frequently expelled. There is indeed every grade of membranous dysmenorrhœa from the most to the least typical. It is generally believed that the separation and expulsion of the membrane in the typical cases stands in some causal relation to the pain, and I believe there is good ground for believing this to be the case all down the scale. I do not suggest that the difficulty of expelling these shreds and clots is the cause of the pain, but rather that their passage through the inner orifice of the uterus excites the organ to spasmodic and painful contractions. There are doubtless other factors in the production of this painful disorder, the most important of which, perhaps, are the conditions of tissue—which

we are unable to appreciate—present in imperfectly developed organs and anæmic subjects, but their discussion is beyond the scope of this paper.

Conclusions.

1. Dysmenorrhœa should be studied first under the least complex conditions—in single women.

2. Dysmenorrhœa in single women is rarely acquired; it is almost invariably primary, viz. it appears with the menstrual function.

3. Dysmenorrhœa in a few, but rare, cases ceases spontaneously a few years after puberty.

4. Marriage, if sterile, aggravates the disorder in many cases; it is only very seldom that it relieves the pain.

5. Child-bearing cures a large number of cases, and it is not impossible that were all puerperal complications excluded it would cure every case.

6. The proportion of sterile to fertile women subjects of primary dysmenorrhœa is one to twelve.

7. Menstruation begins in women who become sufferers from primary dysmenorrhœa at about the estimated average age for the appearance of the function in London.

8. Menstruation is regular in about two thirds of the cases, and irregular in about one third.

9. The menstrual fluid is profuse in about two fifths of the cases, scanty in about one half. It contains clots or shreds in about three fourths.

10. The changes which take place in the fluid in the course of dysmenorrhœa are various, and cannot at present be classified.

11. The uterus is imperfectly developed. It may be too short, or too small in volume, or it may be defective in both respects. The cervix may be conical, and the os small and round, but stricture of the canal in any part of its course is infinitely rare.

12. The changes in the uterus due to dysmenorrhœa are slight hypertrophy, erosion and eversion of the mucous

membrane of the cervix, and catarrh. The cavity increases but little in length, for after years of suffering it measures rarely more than two and a half inches in length. In the early stages the tissues of the uterus are in some cases soft; in the more advanced, hard.

13. The hypertrophy of the uterus is probably the result of periodically increased muscular action.

14. Ovaritis and perimetritis are possible consequences of dysmenorrhœa.

15. The menstrual pain is the result of spasm of the uterus, excited by the separation and expulsion of shreds of decidua and clots, in an organ whose sensitiveness in the performance of its function is enhanced by inappreciable conditions of tissue dependent on imperfect development, often associated with others, such as anæmia.

Dr. Savage said Dr. Williams's paper was so long and elaborate that on coming to the end one forgot the beginning of it. For the present, therefore, he would only remark that the broad ligament was never unsymmetrical, the uterus was always in the centre of it; the apparently elongated side was due to deficient uterine development on that side. As to uterine glands in uterine casts, the glands never came away bodily. Nothing more than the circlets of cells surrounding the apertures of those glands were perceptible in these casts. Fragments of casts, more or less minute, always came away with menstrual fluid.

Dr. Barnes was glad to be able to endorse some of Dr. Williams's leading propositions. It was, he submitted, a fundamental fact in physiology that a healthy organ would perform its functions without pain, certain remote or constitutional conditions not entering into the case. He recognised the truth of the proposition that in a certain proportion of instances, imperfect development of the uterus was a factor in dysmenorrhœa, but he thought Dr. Williams's estimate of the proportion was too high. The frequency with which he (Dr. Barnes) found pregnancy to follow upon the proper treatment of the dysmenorrhœic uterus was enough to prove that the uterus itself, equal to its functions, was fairly developed. He believed also that Dr. Williams had under-estimated the frequency of acquired dysmenorrhœa in single women. Under unusual exertion or from falls—he had seen several cases from falls on the ice during the great skating winter—the uterus might be retro-

verted; and from other causes dysmenorrhœa might be produced. Two most frequent conditions in immediate cause and relation with dysmenorrhœa and sterility with which he was familiar were a narrow os externum uteri and flexion, either at the junction of neck and body, or in the course of the cervix itself. When one or other of these conditions or both together existed, dysmenorrhœa would commonly persist until they were remedied. Dr. Williams had recognised the fact upon which Dr. Barnes had often insisted, that dysmenorrhœa is the expression of difficulty in emptying the uterus, that is, of obstruction. He was pleased to find that Dr. Williams did not adopt that most unphilosophical doctrine of spasmodic dysmenorrhœa as a primary or essential condition. Spasm of a hollow muscular organ was the consequence of internal irritation or of obstruction at its outlet. The uterus fell under this general law. In the same way Dr. Williams had properly recognised that enlargement of the uterus was the result of excessive muscular action to expel its contents; but it was in fact due to the constant congestion of the organ from its impeded circulation. To this cause also were to be attributed the so-called dysmenorrhœal membranes and shreds so frequently seen. These indicated a subacute endometritis. Wherever a mucous membrane was engorged or inflamed it rapidly threw off its epithelial coat. This was seen in the vagina and rectum; the decidual shreds consisted generally of epithelial shedding, enveloped in plasma which consolidated into fibrinous membranes. He doubted whether the true glandular structures of the uterus were often found. Increasing experience embracing every variety of treatment left a steady conviction that whatever complications might point to auxiliary treatment, if the os externum was small and if flexion existed, these must be remedied. It was not enough that the os externum admitted the sound. The secretions of the uterus were locked up above it, and although, as Nélaton observed, the spermatozoa could pass where the sound could pass they could not live in the unhealthy secretions retained in the cervix. Two benefits resulted immediately from division of the cervix in the limited extent which Dr. Peaslee recommended, and which Dr. Barnes had long practised: 1st, the slight bleeding relieved the gorged vessels; 2nd, the imprisoned and changed secretions of the uterus were released and then the os being enlarged, access to the uterine cavity was gained for the direct treatment of the unhealthy mucous membrane by painting. This course was entirely in accordance with sound physiology and pathology.

Dr. Wynn Williams, after complimenting the author of the paper, remarked that it would be quite impossible to follow such minute details as had been so laboriously collected and put together, and whilst agreeing with many of the conclusions

arrived at, and also with the remarks made by the previous speakers, he could not agree with the author of the paper in the statement that displacements were not acquired in the virgin, as he could verify the remarks of Dr. Barnes that they were not unfrequently acquired after falling on the ice, indeed, he had noticed that the displacement took place according to the part of the body the patient fell upon, if on the back, as is usually the case, the displacement would take place posteriorly—retroflexion ; on the face, anteriorly—anteflexion. Some of the worst cases of acquired dysmenorrhœa have arisen from falling from a height on the front of the body. He could call to mind several cases in which this has occurred ; one he could mention where a young lady fell through a window and afterwards suffered from not only dysmenorrhœa but also paralysis of the lower extremities. When examined by Dr. Wynn Williams the uterus was discovered to be actually anteflexed. This was replaced and kept in position for some time. The paralysis very shortly disappeared and the dysmenorrhœa also, and she afterwards went through the fatigues of an hospital nurse during the Turkish war. Another case occurred, where a housemaid fell from the top of a ladder when dusting some shelves. This was treated in the same manner and with the same results. He might here mention that she is now the mother of a large family. Of course any obstruction in the course of the uterine canal will cause dysmenorrhœa, but the most frequent persistent cause of dysmenorrhœa, in his experience, is anteflexion of the uterus, and when this is the cause, although you may for a time relieve the symptoms, they are certain to return sooner or later unless you permanently straighten the canal of the uterus ; and he could most positively assert, in spite of what has been denied by others, that this can be done, for he had met with numerous instances where patients have come under his notice several years after treatment, and on examination he had found the canal perfectly straight, although when examined by the finger the uterus would appear to be somewhat flexed ; this was due to a thickened state of the body of the uterus externally, not to any curvature of the canal itself. To bear out what was said by Dr. Barnes as to the small os externum or pin-hole os being the cause of accumulated membrane which prevented the free discharge of the menstrual fluid causing not only dysmenorrhœa but also very considerable hæmorrhage ; a few months ago, he was consulted by a lady, not very young, who was suffering from dysmenorrhœa and menorrhagia. Upon a cursory examination, the parts being very contracted, he came to the conclusion that she was suffering from a small polypus protruding through the os, but on making an examination under chloroform he discovered that the rounded swelling felt was within the os, which was very small. On enlarging this with a lancet, exit

was given to fully a teaspoonful of thick, cheesy-looking material. He was glad to learn from Dr. Barnes that he had discontinued the use of the scissors in these cases, and now made the incisions with the lancet, as he (Dr. Wynn Williams) had witnessed very unnecessarily large gashes made in the neck of the uterus therewith. He did not consider also that the author of the paper had laid sufficient stress as a cause of dysmenorrhœa on metritis and fundal endometritis described by Dr. Routh.

Dr. Graily Hewitt would express his full concurrence with the first or introductory part of Dr. Williams's paper referring to the extreme importance of considering the general as well as the local element in cases of dysmenorrhœa. For many years he himself had been endeavouring to become acquainted with the natural history of the subject, and had been led to form certain conclusions. He here remarked on the extreme frequency with which malnutrition of the body, generally involving also the uterus, is observed in cases of women suffering from uterine symptoms. This imperfect nutrition is really a condition of chronic starvation. Examining into these cases during the early part of their course, we find the uterus soft, its tissues wanting in firmness and resistance, and as a result the organ is rendered incapable of maintaining its proper shape and position even under ordinary exertion, and still less when unusual straining is put upon it. Then the uterus becomes distorted, flexed backwards or forwards, or rarely laterally, and it becomes thrust down too near the floor of the pelvis. Frequently it becomes compressed on itself owing to this undue softness. The late Dr. Rigby described what he termed the "squatting" uterus, and this term conveys a notion of the condition. Probably some of the cases described by Dr. Williams as cases of imperfect development of the uterus were cases of this latter kind. Some years ago, in conversation with Dr. Williams, he had explained to him his inability to explain this condition of softness of the uterus, but since that time observation had convinced him that it arose in single and frequently in married women, from malnutrition of the organ. Symptoms arise in connection with the distorted condition of the uterus; one of these is dysmenorrhœa, which is, in the majority of cases, due to the difficulty in the escape of the uterine secretions produced by the altered shape of the organ. All cases of uterine distortion are not accompanied by dysmenorrhœa, nor is dysmenorrhœa always due to uterine distortion. The circulation in the uterus is often much interfered with and the congestion itself may cause pain. In his experience he had hardly ever failed in giving relief to dysmenorrhœal symptoms, by simply taking measures to ensure the canal of the uterus being straight and the uterus in its proper position in the pelvis. And this seemed conclusive as to the close connection between

the distortion and displacement and the dysmenorrhœa. In regard to the frequent presence of membranous shreds in cases of dysmenorrhœa, Scanzoni's opinion, expressed some years ago, was in consonance with Dr. Williams's, and there seemed no doubt that dysmenorrhœa would be increased by those bodies arrested at the narrowed internal os uteri. He thought, in opposition to Dr. Williams's opinion, that dysmenorrhœa was very often indeed secondary, for in very many cases he had seen, the symptoms were first observed after painless menstruation some months or longer in duration.

On the motion of Dr. Gervis, seconded by Dr. Savage, the debate was then adjourned to the following meeting.

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JUNE 7TH, 1882.

J. MATTHEWS DUNCAN, M.D., F.R.S. Edin., President, in the Chair.

Present—55 Fellows and 5 visitors.

Books were presented by Mr. Alban Doran, Dr. E. H. M. Sell, Dr. E. Labat, and the American Medical Association.

Fred. H. Spooner, M.D., Audley Cecil Buller, M.R.C.S., Robert James Hutton, L.R.C.P. Edin., Louis Parkes, M.D., and Wm. A. Meredith, M.B., were admitted Fellows of the Society, and W. R. Dambrill-Davies, M.R.C.S. (Sandbach, Cheshire), Charles Grove Young, M.D. (George Town, Demarara), and Fred. William Coates, M.D. (Salisbury), were declared admitted.

TWISTING OF PEDICLE IN AN INCIPIENT DERMOID OVARIAN CYST.

By ALBAN DORAN, F.R.C.S.

A MARRIED woman, aged 32, consulted me last March about an abdominal swelling which did not inconvenience her from its bulk, but, on the other hand, caused constant abdominal pain and a feeling of irritation referred to the iliac fossæ. Ever since puberty she had been subject to

severe dysmenorrhœa, only relieved by pregnancy, and she was the mother of five children. In the summer of 1881 she noticed "a lump, like an egg," in the left iliac fossa. She sought advice at a hospital in London, but it was found that she was pregnant, and she was recommended to keep quiet. On January 26th she was confined, at full term, her child living but three weeks; on March 20th the catamenia reappeared. The abdominal pain was particularly severe when she coughed; there had been no sudden attacks of increased pain with feverishness.

On examination, I found a small tumour occupying the lower part of the abdomen, from the pubes to two inches above the umbilicus; it was not very tense, and fluctuated in all directions. The uterus was fairly movable and pushed to the left; the cyst could not be felt in the pelvis, but to the right of the uterus there was some fulness.

On April 20th, 1882, I operated on this patient, assisted by my colleague Dr. Bantock, and by Mr. Meredith, who administered chloroform. I employed the carbolic spray. On opening the abdominal walls I found a cyst of the left ovary, filled with seven and a half pints of a greasy, beef-tea coloured fluid; its pedicle was long and narrow, and readily secured by transfixion with a double silk ligature. On passing my hand behind the right broad ligament, I found and drew up the specimen which I exhibit this evening. It had a very thin pedicle twisted once in its long axis. It was clearly in the place of the ovary. The condition of the parts was carefully investigated before the abdominal wound was closed, and no other solid structure to the right of the uterus could be detected. The patient made a very rapid recovery, and on the first day observed that all the abdominal pain and the intense feeling of irritation in the iliac regions had completely disappeared.

The tumour of the left ovary consisted of one large and two secondary cysts, the latter were both filled with opaque, pale-yellow fat resembling pomatum, and sharp spicules of bone covered with epidermis projected from their walls.

I could find no normal ovarian tissue. The right ovary, which I now exhibit, is also wholly converted into a morbid growth. It measures two and a quarter inches in its longest diameter, and one inch in its shortest measurement. It consists of a single cyst. Its walls are nowhere more than one-eighth of an inch thick and are lined internally with epidermis bearing sebaceous glands. It was stuffed with a very dense mass of coarse black hair mixed with the same kind of pale-yellow fat as that found in the opposite cyst. A portion of its long and twisted pedicle is preserved; it is entirely reduced to white fibrous tissue, and looks like a large nerve branching on to the surface of the cyst; all traces of its normal component parts are lost. When fresh, before removal of its contents, the tumour was heavy for its size, weighing nearly five ounces.

The most marked clinical feature in this case was the pain and discomfort experienced by the patient almost from the earliest appearance of the larger tumour. Ovarian cysts, before they have attained a certain size, seldom cause much discomfort and are still more rarely painful unless they inflame or set up peritonitis. In this case the tumour on the left side was by no means very large, indeed, the abdominal walls were slightly relaxed, owing to the patient's recent confinement, the cyst not having filled with sufficient rapidity since that event to make the abdomen as tense as it was towards the end of pregnancy, nor had there been any inflammatory complications.

It is highly probable that the condition of the right ovary was the true cause of the subjective symptoms. The growth of a dense mass of hair and fat in its interior had made it very heavy. It had hung down in Douglas's pouch and rolled about, so as to become twisted round its own pedicle, a complication that arrested its further growth. A small, heavy solid body, shaking about for months in Douglas's pouch, is more likely to cause irritation than a small and not very heavy cyst occupying the abdominal cavity.

UTERUS TORN OUT AFTER DELIVERY.

Mr. Hopkins Walters, of Reading, exhibited a uterus that had been torn out by a midwife on the 18th April, 1882, in the attempt to remove a retained placenta after labour at term.

In front the separation between uterus and vagina had been affected at their line of junction, and the vesico-uterine reflexion of peritoneum was torn obliquely from the left side, close to the uterine wall, across to the right side, one and a half inches from its uterine attachment; and from this portion hung a narrow strip of peritoneum five and a half inches in length, which had apparently formed part of the peritoneal covering of the bladder.

Behind, a semicircular flap of the posterior vaginal wall, about one and a half inches in length, remained attached to the uterus. Near the junction of this with the cervix was a bruise and partial laceration, as if a finger had almost penetrated the vaginal wall at this point. The utero-rectal reflexion of peritoneum was detached along the uterine wall.

On the left side of the uterus remained half an inch of the ligament of the ovary, one inch of the Fallopian tube, and about four inches of the round ligament; the broad ligament, excepting its extreme upper and lower uterine attachments, having been left behind with the ovary and the rest of the tube.

On the right side the broad ligament was entire, having been torn from its pelvic attachments, and contained four and a half inches of the round ligament, the ovary with its ligament, and the Fallopian tube with its fimbriated extremity.

The uterus was well contracted and empty, the placenta having been expelled during the manipulations of the midwife.

Accompanying the specimen was a piece of omentum,

about twelve inches in length, that had been prolapsed and was removed.

Mr. Walters hoped to read a report of the case at a future meeting of the Society, as it presented many extremely interesting features, not the least of which was that the patient had made an excellent recovery.

OVARIES AND FALLOPIAN TUBES REMOVED BY OÖPHORECTOMY.

Mr. Knowsley Thornton showed the ovaries and Fallopian tubes removed from a woman æt. 44 to check the hæmorrhage from uterine fibroid. When removed both tubes were sealed at their extremities and full of semi-purulent fluid, and both ovaries were much enlarged, each containing cysts as large as pigeon's eggs; they were also so buried in adhesions behind the uterine tumour that a long and difficult enucleation had to be performed on each side before the ovary could be brought into view. The cysts in them varied in size from that of a small currant to that of a hen's egg, and all contained dark tar-like blood. Since the specimens had been in spirit this blood was seen to contain a quantity of bright glass-like crystals, but they had not yet been examined.

Mr. Thornton believed that the inflammation (peritonitis) which had sealed the fimbriated ends of the tubes had also caused such adhesions over the ovaries that the contents of the ovisacs could not escape at ovulation, and hæmorrhage having occurred into the sacs in varying amount, the condition found was produced.

The operation was an exceedingly difficult one and the patient was very ill after it, but was recovering. He had now performed oöphorectomy five times for uterine fibroids and once for fibro-cyst of uterus. The latter case and three of the others were perfect successes, all hæmor-

rhage ceasing and the uteri in a few months becoming atrophic. In one case where there were multiple subperitoneal fibroids in a young woman the result was only a partial success.

Dr. Heywood Smith remarked, in reference to what Mr. Thornton had said about the shrinking of fibroids, that in a case where he performed oöphorectomy about four weeks ago, the uterus lessened in size about one and a half or two inches within the first week after the operation.

UTERUS JUST BEFORE MENSTRUATION.

Mr. Griffith showed a uterus with microscopic sections exhibiting early menstrual changes delayed by death, from a patient æt. 29, who died in St. Bartholomew's Hospital from hepatic abscess and consequent jaundice. Her second child was born five months previously, and she had not menstruated since, but for a few days before her death had expressed her opinion that she was about to do so.

The uterus at death presented externally a natural appearance, on section the mucous membrane of the body was seen to be intensely red and somewhat thickened, but not detached at any part. Under the microscope this was seen to be due to an infiltration of almost the whole thickness of the mucous membrane by effused blood, no destructive or fatty changes were visible.

The sub-endothelial layer of the internal coat of the arteries of the muscular tissue was enormously thickened, in some cases being equal to the thickness of the muscular coat.

Dr. John Williams remarked that this thickening was constantly seen after parturition.

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MISSED ABORTION.

By Campbell Pope, M.D. Lond.

The patient from whom the specimen was taken, came under notice in the fourth month of her pregnancy; she was then suffering from hæmorrhage. No examination was made at that time, chiefly because the patient was nursing her child with scarlatina. An astringent mixture arrested the hæmorrhage. Three months and a half later, on examination for continued hæmorrhage, the uterus was found to be large, with the lips of the os small and hard, and the os itself firmly closed. There were no pains but the hæmorrhage was very profuse.

A mixture containing ergot and iron brought on labour pains, and the placenta and included ovum were extracted by ovum forceps after dilatation by a Barnes's bag.

The ovum presented the appearances of six weeks' life and was extracted in the eighth month of pregnancy.

The history of the mother with regard to her pregnancies was three living children, a false conception, a still-born child at full term, a fourth living child, a miscarriage, and the present missed abortion, in eight years of married life.

FIBROID TUMOUR OF THE RIGHT OVARY.

Dr. Carter exhibited a fibroid tumour of the right ovary which he removed from a patient æt. 29. The tumour weighed 3 lbs. On microscopical examination, portions taken from various parts of the structure were found to be homogeneous, and consisted of fibrous tissue with a variable amount of non-striated muscle. The patient had been under the care of Dr. A. Buchanan, who, four months ago, and eight months after her marriage, found a hard nodular

mass in the lower part of the abdomen. She was regular and not profuse; had had one child ten years ago. When first seen (March 14, 1882), on vaginal examination, a large, rounded, hard, and in parts elastic, tumour filled the pelvis, and pressed down to within one and a half inches of the perinæum, the uterus was pushed forwards and upwards against the pubic bone, so that the fundus was felt in the hypogastric region. The sound went forward two and three quarter inches. Abdominally a hard rounded tumour was felt, reaching about two and a half inches above the pubic bone, and pressure upon this moved the part felt in the pelvis without conveying any marked movements to the uterus. About a month after this the feet and legs became œdematous; this increased, and the lower part of the abdomen and thighs became œdematous and the abdomen was distended with ascitic fluid. The urine was scanty, 14 to 18 ounces daily; no albumen in it. She was operated upon May 11th. On opening the peritoneal cavity 25 pints of ascitic fluid escaped; the tumour was found wedged into the pelvis, attached to the right side of the uterus and adherent to the omentum, intestines, and the pelvic walls. The tumour, after the adhesions had been ligatured and separated, was pushed out of the pelvis by the hand of an assistant in the vagina. As there was a good deal of oozing from the adhesions a glass drainage-tube was put in and the abominal opening closed.

The patient did well. At once, after the operation, the quantity of urine passed increased; on the third day it amounted to 150 ounces, and on the fourth to about 100. The anasarca rapidly passed away. The anasarca and ascites appeared to be due to pressure upon the large veins in the pelvis, though it was impossible during the operation to say precisely which; but most probably the vena cava at the brim of the pelvis.

Mr. Alban Doran referred to the report which Mr. Thornton and he himself had made on a case of Mr. Cullingworth's, supposed to be fibroma of both ovaries, and recorded in vol. xxi of the Society's 'Transactions.' Careful and repeated microscopical

examination proved that the tumours were sarcomatous, not fibromatous. In Dr. Carter's case, the presence of ascites, not very frequent in patients suffering from uterine fibroid myoma, also appeared to indicate that the tumour was a sarcoma of the ovary. General pathologists, it must be remembered, are slow to distinguish between the spindle-cell of a sarcoma and the very similarly shaped cell of uterine tissue and uterine fibro-myoma. In fœtal human ovaries fusiform nuclei in the stroma are very scanty, in the adult ovary they abound, and can be traced from the uterus along the ovarian ligament. Hence it is very reasonable to believe in the possibility of a fibro-myoma of the ovary identical with the same kind of tumour in the uterus; on the other hand, the form of the cell in such growths, when not uterine, is apt to puzzle the observer, who must then take into account clinical symptoms pointing to innocence or malignity.

ADJOURNED DISCUSSION ON THE NATURAL HISTORY OF DYSMENORRHŒA.

Dr. Gervis, while expressing his admiration of the careful observation and research of Dr. Williams's paper, was scarcely prepared to assent to many of his conclusions. His experience, for example, as to the dysmenorrhœa of single women, led him to judge that, contrary to Dr. Williams's opinion, it was very commonly acquired; and he quoted several cases he had recently seen sustaining this view. As regards the effect of child-bearing, he agreed with Dr. Williams as to its beneficial results, but, unfortunately, sterility was the rule in these cases; and in cases of obstructive dysmenorrhœa generally, the same difficulty which led to the painful menstruation proved a difficulty also in the way of impregnation. The statement with respect to imperfect development of the uterus was, he thought, too absolute; and, on the other hand, stricture of the cervical canal, either actual from stenosis or virtual as when associated with flexions, or the result of endo-cervicitis, he had found extremely common instead of "infinitely rare." The most usual changes he had observed

in the uterus in primary dysmenorrhœa were corporeal hyperplasia with or without endometritis and endocervicitis. But in a considerable number the cervix showed no evidences of secondary inflammatory disease. Instead of ovaritis being a "possible" consequence of dysmenorrhœa, in his experience it was a very frequent one; indeed, he believed few cases of dysmenorrhœa lasted many years without inducing ovarian trouble. And lastly, he thought the statement that menstrual pain was the result of spasm was again a too absolute statement, applicable only to those cases in which the dysmenorrhœa was the result of obstruction, and that there were other distinct varieties of menstrual pain, dependent on uterine congestion and on ovarian complications.

Dr. Routh, after some eulogistic remarks on the paper, of Dr. Williams, felt bound to criticise some of his conclusions. His conviction was that dysmenorrhœa was not nearly so often a primary affection. On the contrary, it was more frequently acquired as a sequel of inflammatory and other lesions. Then his experience was directly opposed to Dr. Williams's sixth conclusion. It was precisely in sterile women that dysmenorrhœa was most frequent.

As to the *causes* of the affection. He would remind the Society in every woman, even a healthy one, a few days prior, and during the first or second day of menstruation, especially if the flow was small, the mucous membrane of the uterus was swollen and tumefied. Except, therefore, a sound was passed during this short interval, a uterus might admit it freely, although somewhat narrower than normal; but its easy transmission out of a catamenial period, would be no argument against the constriction of the canal during a period, while the moment a full flow had taken place, and the catamenial congestion had been relieved, the sound could be passed without difficulty.

Then it should be borne in mind that, although menstrual fluid could pass readily through even a *narrow* uterine

canal, this was not the case when small clots or shreds of membrane passed out. These gave rise to a good deal of pain and distress. This pain varied according to the number and quantity of these clots or shreds, reaching its greatest intensity in cases of *dysmenorrhœa membranana*. That this pain was due to obstruction was proved by the treatment most useful in this affection. German authors went so far as to say that *dysmenorrhœa membranana* was quite incurable, but they also stated that dilatation was the most effectual means of relief. This membrane, when microscopically examined, gave evidence of its being a diseased structure, as both Kundrat and Engelman had shown it was the result of a fatty degeneration.

But apart from the occurrence of clots and membranes, there was a condition of parts which he had named *fundal endometritis*, where that portion of the uterus above the internal os was in a state of chronic inflammation. In such cases, even the passage of sound past the internal os, reproduced *exactly* the pains, in all its details, of a period. This pain was not observed in every woman as they well know, as often the passage of the sound was painless. But if a sound could do it, why not the passage of menses at the period when tumefaction was superadded and the inflammatory symptoms necessarily aggravated.

There was another cause of dysmenorrhœa not referred to by the author, one which he would call the result of *retrogressive suction* of the secretions of uterus, perhaps of vagina. We know, of course, of those cases where air was sucked up into the vagina, and again voided by a vaginal contraction, with a noise like flatus per anum. Possibly the same retrogressive muscular action of uterus would explain some cases of *physometra*. But you, Mr. President, have yourself, in your writings, called attention to this uterine tendency in some cases of the unimpregnated as well as of the pregnant woman. I believe this sometimes, and more frequently than we have any idea of, becomes a *confirmed* habit of the uterus, and this accumulation lays the foundation of irritation of the canal. This habit

explains those pains which occur at the mid period between two catamenial periods, to which Dr. Priestley once called attention. This pain thus produced exactly resembles dysmenorrhœa, and is suddenly relieved by the escape of a quantity of mucus, when women tell you that they felt something give way. It explains also what is so often observed (as Dr. Barnes explained to us the other evening) when the external os is freely opened, that a lot of imprisoned mucus is let out. This tendency to a retrogressive suction back into the uterus, become a habit of some uteri, is one reason, I believe, that the catamenia will not readily pass outwards, and it is only when a full quantity has accumulated in the cavity of the uterus above that a sudden muscular expulsive action takes place as in the mid period, and blood now instead of mucus is forced out and relief follows. This state of things, however, cannot long exist without producing some congestive or inflammatory mischief in the uterus which aggravates the dysmenorrhœa. It also shows how dilatation of the cavity, or the wearing of a uterine stem, should prove so useful as a means of treatment.

But the principle objection I have to make to Dr. Williams's views, lies in his total neglect of uterine flexions and versions as causes of dysmenorrhœa. In this most of the preceding speakers have concurred. On the other hand, some who hold a different opinion, and I believe you yourself, Mr. President, have called attention to it, refer to a solitary instance where a uterus was shown to this Society in which flexion existed, but where there was a perfectly pervious canal throughout, and the thickening was at the point of flexion; and upon this solitary instance observed, no end of theories have been built. What are we to say of those other cases exemplifying exactly the opposite condition in our museums? How use our common sense in regard to a physical law which exists everywhere except in a flexed uterus? Will any one tell me that fluid can pass through a completely flexed uterus as readily as it can through a normal organ. But who has not seen

the most extraordinary versions and shapes of uteri. It may be in the recollection of this Society that some years back Dr. Greenhalgh exhibited to the Society a number of caoutchouc stems which he had placed in the uteri of women who had dysmenorrhœa. The shapes of these on withdrawal were eminently fantastic. Some very much constringed at the inner os, some contracted elsewhere, some twisted, some bent at all angles, and at such parts being flattened, &c. All this is evidence that obstruction existed in these several wombs, and this it was that gave rise to the dysmenorrhœa—a dysmenorrhœa which after a time the caoutchouc stems failed to cure. Nevertheless, the forms the stems had acquired incontrovertedly demonstrated the locality and character of the obstruction, and also that solid stems were required. He (Dr. Routh) had several similar stems of caoutchouc too, similarly misshaped by having been worn by dysmenorrhœal cases which had occurred in his practice. One form of obstruction Dr. Routh had observed in some uteri, whence he had ventured to call an organ so affected *a corkscrew uterus*. The sound here had to be passed first downwards, then upwards, then downwards again before it could reach the fundus. Then those examples where the body and fundus uteri moved upon the cervix in a kind of ball-and-socket manner, being flexed or flexible alternately in various directions, one day being anteverted, the next retro-flexed and another day latero-flexed, where there could certainly not be greater thickness of the uterine wall on one side than on the other. It was clearly unphilosophical to give all these various displacements as causes, indeed, very powerful causes, of dysmenorrhœa.

It had been said the uterus did not forcibly *contract* itself in these cases. He (Dr. Routh) entirely differed from this opinion. In early years he had seen two marked cases of dysmenorrhœa with intense pain. In both he had been sent for by the patients, who believed they were miscarrying. In both, the clonic contraction was so strong that the uterus was powerfully pressed against his finger

placed in the vagina, as if it were a regular labour pain, and the pain was very intense, but once a copious discharge was established, the pain which had lasted for hours, ceased. He had had ocular demonstration also of the power of these contractions in a remarkable case. The lady was barren, although married for years. Considerable property would, however, revert to the husband if a child were born. The husband was, therefore, desirous that his seed should be introduced directly into his wife's uterus, as it invariably passed away from her immediately after connection. The seed was brought to him in a wine glass and through a speculum, by means of a long syringe, he injected into the canal right up to the fundus a small quantity. While about to mop out the vagina, the uterus suddenly contracted, and forcibly expelled the fluid some two feet from the orifice of the os uteri. These three examples to his mind proved incontrovertibly the power with which the muscular fibres of an unimpregnated uterus can and do contract, and there could be no doubt, he thought, that it is this contraction to overcome some kind of obstruction which gives rise to the phenomena of dysmenorrhœa.

Dr. Heywood Smith. While agreeing, sir, with the former speakers as to the great value of Dr. John Williams's paper as elucidating the history of dysmenorrhœa, I must take exception to its form and *raison d'être* as being the natural history of a symptom without sufficient regard being had to its being merely the expression of certain pathological conditions. As well might we have brought before us the natural history of cough, without its being recognised as a symptom of some lesion or malady of stomach or lungs. Passing by the first five conclusions I would remark as to the sixth that I agree with Dr. Routh that from a large field of observation I have come to an opposite conclusion; viz. that by far the larger proportion of women that suffer from dysmenorrhœa (primary) are sterile and not fertile. With regard to the menstrual flow (9), we should take into

consideration the difference pathologically between ovarian and uterine dysmenorrhœa. For when there is ovarian disease apart from congestion the flow is scanty, as is also often the case in uterine dysmenorrhœa depending on stenosis or flexion; in ovarian congestion and uterine hyperæmia the flow is increased.

As to the statement (11) that the uterus is often imperfectly developed, it is no doubt sometimes the case that the uterus is a quarter of an inch shorter, but in by far the larger proportion of cases the uterus is of the normal size.

As to the statement (12) that erosion (which is erroneously termed "ulceration"), eversion, or catarrh are the results of prolonged dysmenorrhœa, I am inclined to look upon them as causes, for in all these pathological conditions dysmenorrhœa seems to be acquired. And since comparative hardness of the cervix is referred to, areolar hyperplasia the result of chronic cervicitis is a distinct cause of dysmenorrhœa. The hypertrophy which is stated (13) to be due to increase of the muscular elements of the uterus is, I think, more often due primarily to subinvolution and its subsequent cervicitis or chronic metritis. Ovaritis and perimetritis (14) I have found to be more often causes of dysmenorrhœa, though undoubtedly cases do arise where inflammation of the interior of the uterus does produce a train of symptoms which result in ovaritis. In considering the question of pain (15) we must again be careful to distinguish between cases of ovarian and uterine dysmenorrhœa, the pain of the former being limited to the ovarian region and occasionally extending to the mammæ, whereas in the latter the pain is referable to the back in cases where the cervix is involved, or to the hypogastrium when the dysmenorrhœa is dependent upon constriction of the cervical canal, or upon chronic endometritis. With regard to what Dr. Routh said, is it not true that whether in cases where the flow consists of shreds or fine débris, or whether the decidua is propelled whole, as in cases of membranous dysmenorrhœa, the membrane undergoes

in its cycle of growth and ripening fatty degeneration, which is the pathological, or almost physiological, change which is the means whereby the membrane becomes broken up or loosened from its attachments?

Dr. GALABIN said that his own experience confirmed that of Dr. Williams as to the frequency with which, in cases of primary dysmenorrhœa, small shreds were found showing the structure of the uterine mucous membrane. Thus many cases partook of the nature of membranous dysmenorrhœa which had not been generally recognised as having that character. Dr. Barnes and Dr. Savage had said that the actual uterine glands were not found, but only openings for the glands. Making sections, however, parallel to the free surface, he had repeatedly found the entire glands, including basement membrane and epithelium. He thought that the observations recorded were valuable as showing that, in the great majority of cases of dysmenorrhœa, the menstrual product was not a pure fluid which could pass through a very narrow or bent canal without appreciable obstruction, and also as showing that hypertrophy of the muscular wall frequently resulted, indicating that the uterus had greater difficulty than usual in emptying itself. But he thought that the author went too far in laying it down as a universal proposition that the menstrual pain is the result of spasm of the uterus excited by the separation and expulsion of shreds of decidua and clots. He thus appeared entirely to exclude the existence of congestive or inflammatory dysmenorrhœa in single women. This statement was perhaps more significant since in a former paper Dr. Williams had denied the truth of the old belief which he (Dr. Galabin) still believed to be correct, that there is an active flux of blood to the uterus during the menstrual flow. Dr. Galabin had also, like several former speakers, found secondary dysmenorrhœa, which was more likely to be congestive, relatively commoner in single women than Dr. Williams had found it. But there were many cases in which there was some primary pain, but so slight that

the patient hardly regarded it as worthy of notice, and in these it depended very much upon the questioner whether the dysmenorrhœa were put down as secondary or primary. He thought it was sometimes too readily assumed that intermittent pain meant necessarily spasmodic muscular action. A neuralgic pain, like toothache, was often intermittent, and the proof was only complete when the spasmodic pain was noticed to be coincident with a gush of fluid or passage of clots or shreds. The uterus was no doubt often undeveloped in cases of dysmenorrhœa, but he thought that the frequency of this had been rather overestimated. A fallacy sometimes occurred, and he had been asked to sanction the use of an intra-uterine stem in order to develop the uterus when its cavity was really three and a half inches long, the sound having been arrested at a point of flexion higher up than usual.

Dr. Champneys expressed his great admiration of the paper, especially as regarded its method; its value would remain, even if all the conclusions were not accepted. The method is well described as a study of natural history, a name which refers to the fact that the cases (like animals or plants) were observed and watched undisturbed by vivisectional and other topical experiments. This in itself is a new departure. He could not agree with many of the criticisms which had been made, as, for instance, with the objection that dysmenorrhœa is only a symptom and should not have been studied apart from the particular pathological change, seeing that our knowledge of the normal uterine changes in the course of a month is very scanty, and our knowledge of the pathological changes almost *nil*. He could not refrain from remarking the conspicuous absence of any solidarity between dysmenorrhœa and flexions in a careful study of nearly nine hundred cases of primary dysmenorrhœa.

Dr. Richard T. Smith remarked that too little attention was given in the earlier stages, and in the milder forms

of dysmenorrhœa, to the general condition of the system. What is perhaps best designated as a lithæmic diathesis (the causes of which he need not specify) was one of the most common causes of the affection; and the pain in all probability was due to local congestion or sluggish circulation, and similar to the pains so frequently experienced in the intestines and in various parts of the urinary tracts in that disorder. Evidence of this was to be found in the coldness of the lower extremities, which is almost a constant feature in such cases, and not by any means limited to the time of menstruation. Further evidence appeared in the relief given by popular and home remedies, which unfortunately were too often of an alcoholic character, while, as Dr. Barnes had somewhere stated, Liq. Ammoniæ Acetatis in full doses was one of the very best. He considered that the persistence of the condition described was quite capable of causing chronic catarrh and general induration of the uterus, irrespective of any misplacement or change of shape. He would be glad to have an explanation given of the undoubted fact that occasionally acute flexions existed without any dysmenorrhœa for one or two periods, while subsequent ones under apparently similar conditions with respect to the shape and position of the uterus would be most painful. Dr. Williams's paper was a valuable contribution of facts, but these needed a much more vigorous classification before any very practical deductions could be drawn from them.

Mr. Hopkins Walters (Reading) said he had not intended taking any part in the discussion, but he agreed with Dr. Heywood Smith that changes in the uterus were more often the cause of dysmenorrhœa than dysmenorrhœa the cause of them. He was much astonished at Dr. Williams's conclusion that dysmenorrhœa in single women is extremely rarely acquired. In his experience, although primary dysmenorrhœa was frequent, acquired dysmenorrhœa was very frequent too. He found this obtained particularly with two classes of single women—those who

get their living by sewing and those who teach in schools—women who, for years having menstruated regularly and painlessly, take to a sedentary occupation, and suffer in consequence from constipation of the bowels and gradually acquire a progressively increasing painful menstruation. They had heard some curious theories of the etiology of dysmenorrhœa, but he thought a study of these cases taught them much. The chain of events was very simple. A sedentary occupation, constipation of the bowels, congestion of the uterus, tumefaction of the cervical mucous membrane, obstruction to the menstrual flow, and then, to get rid of this fluid and the clots, came the intermittent pains which constituted the dysmenorrhœa. These were the primary changes in the uterus which caused the dysmenorrhœa. Next followed the secondary changes, a mere continuation of the same pathological chain—cervical catarrh, subsequent erosion and possibly inflammation, thinning and softening of the cervical tissues, and finally, a flexion; presenting then as obstinate and difficult a case as it was possible to meet with. He considered the intermittent pain neither spasmodic with a patent canal, nor neuralgic, but expulsive with an obstructed canal. He found such cases far from uncommon, and when treated in their early stages by alteration in habits, regular exercise, and careful attention to the general health, relief was commonly obtained and years of intense suffering prevented. Probably the diversity of the experience on this subject was to be accounted for by differences in the habits and mode of life of girls growing up in London and the country respectively, which exercised important modifying influences on their sexual precocity, development, and morbid tendencies.

Dr. Rogers expressed regret that he had not seen in the public journals the "conclusions" arrived at by Dr. Williams in his paper read at the last meeting of the Society. He had looked over many hundreds of his cases, both hospital and private, and was surprised to find that a

very large number had certainly stated they had some malaise or even some pain on the first occurrence of the catamenia; but he could not class such cases as dysmenorrhœa, though most likely Dr. Williams had done so. Then he found a great many had had no pain till some subsequent catamenial period. Dr. Rogers could agree with Dr. Williams's fifth conclusion, but not with that part of the ninth where it is said that in three-fourths of the cases of dysmenorrhœa the fluid contains clots or shreds. He could not agree with the statement that stricture of some part of the canal is exceedingly rare, and he believed that flexions and displacements play important parts in the production of dysmenorrhœa, which Dr. Williams did not seem to admit, but stated that spasm of the uterus caused by the separation and expulsion of clots and shreds of decidua was the cause of the dysmenorrhœic pain. This was true in a certain number, but would not explain the constitutional, the ovarian, the congestive suffering, nor the displacements and flexions producing severe dysmenorrhœa.

Dr. Hayes had found dysmenorrhœa chiefly associated with a conical and cylindrical cervix, which was abnormally large and often congested. The os did not extend across the extremity of the cervix, was frequently central, and its form often circular; it was always small, at times barely admitting the sound. He believed this form of cervix was a continuation of the fœtal condition, in which the cervix was proportionately so much larger than the body of the uterus.

Dr. Godson considered that, in discussing the conclusions arrived at by Dr. John Williams, everything depended upon the character and the severity of the dysmenorrhœa. If the term included the slight periodic pain so common among women out of health from any cause, then the preponderance of fertile over sterile women was probably as great as was given in the conclusions. But if by dysmen-

orrhœa was meant that severe pain which obliged a woman to keep her bed, and she unable to lie quiet, then it was extremely rare to find a sufferer who was not sterile. This Dr. Godson had recently described in a paper read before the Society.

Dr. Williams, in reply, said The conclusions which have been printed and placed in the hands of the Fellows refer to primary dysmenorrhœa alone. This will make it unnecessary for me to reply to many of the observations which have been made upon my paper. In the membranes and shreds of membranes which were so frequently expelled from the uterus, glands lined by columnar epithelium are not uncommonly found; in many instances, moreover the epithelium has fallen out and the channels alone remain. No doubt the explanation given by Dr. Savage would account for unequal length of the broad ligaments, but it would not account for the cases in which the uterus lies close upon the wall of the pelvis. The number of cases in which the uterus was observed to be small was given in the paper, as well as the number in which the organ was inferred to be in a state of imperfect evolution. I cannot agree with Dr. Barnes that a uterus "which becomes pregnant is not imperfectly developed." I feel sure that such organs become pregnant, and such a condition is, I believe, the cause of some abortous and premature labours in primiparæ. In the cases of dysmenorrhœa referred to in the paper, the external os was small in a certain number, but in the great majority it was well formed. Moreover, in more severe cases a No. 10 bougie could be readily passed into the uterus. I well remember the conversation referred to by Dr. Graily Hewitt. I cannot agree with him that dysmenorrhœa is due to retention. The pain is utterly disproportionate to the obstruction, besides it has been clearly shown that in many cases obstruction is not present. The pain seems to me to be due to reflex spasm caused by a peripheral irritant. Ovarian dysmenorrhœa was not included in the paper. I have

never met with ovarian pain as a primary condition; it usually comes on some years after puberty. When it has come on in the course of and as a consequence of dysmenorrhœa, I agree with Dr. Gervis that the women are generally sterile. Erosion and catarrh come on after years of suffering, but not in all cases. It should be borne in mind also that the ovaritis may be due to other causes than the menstrual suffering. I do not think that stenosis has anything to do with the production of the spasm in the great majority of cases. If we take married sterile women and married fertile women, it will be found, as Dr. Routh states, that dysmenorrhœa is more common in the sterile, but this is quite another matter, and is perfectly compatible with the statement that one in twelve of women who suffer from primary dysmenorrhœa become mothers. I have discussed membranous dysmenorrhœa in a paper read before the Society some years ago, and will not make further reference to it now. There is no evidence whatever to prove that the menstrual flow is regulated by the ovaries, viz. that the quantity of the fluid lost is in proportion to the degree of activity of the ovaries. The dysmenorrhœa could not have been the result of the changes in the uterus, as Dr. Heywood Smith maintains, because it was present with the first menstruation, and no one I imagine would maintain that the conditions referred to were present at puberty. I am glad to find Dr. Galabin confirm me in so many of my conclusions. I believe congestion has its place in certain kinds of dysmenorrhœa, or in certain stages of it, but I do not think, and I am sure there is no evidence to show it, that congestion plays any part in the causation of dysmenorrhœa at puberty. In conclusion, I would thank the Society for the attention which has been accorded to the paper and the discussion to which it has been subjected.

CHARING CROSS HOSPITAL COLLEGE OF MEDICINE
LIBRARY.

JULY 5TH, 1882.

J. MATTHEWS DUNCAN, M.D., F.R.S. Edin., President, in the Chair.

Present—36 Fellows and 3 visitors.

Books were presented by Dr. Budin, Dr. Chahbazian, Dr. Doléris, The Smithsonian Institution, and the Gesellschaft für Geburtshülfe in Leipzig.

Dr. Henry James Leonard was admitted a Fellow, and Dr. Charles Percy Barlee Clubbe (Lower Tooting), was declared admitted a Fellow of the Society.

The following gentlemen were elected Fellows of the Society :—Walter Gripper, M.B. Cantab.; William Osborne Lambert, M.D. (Sunderland); Thomas Gargill Nesham, M.D. (Newcastle-on-Tyne); and John R. Somerville, M.D.

EXTRA-UTERINE GESTATION.

DR. DALY exhibited a specimen of extra-uterine gestation. The patient consulted him the end of May. She complained that she felt different from what she had in her two former pregnancies. She was just over two months pregnant. There was intense pain in defæcation, some distress in micturition, and considerable dyspareunia. She said she felt convinced something was wrong. Rest

in bed and opium suppositories gave complete relief, the symptoms, however, returning every few days. She drove one day from London to Epsom and back, to the Oaks, and felt none the worse. On the 4th of June, immediately after dining, she was seized with violent pain in the lower part of the abdomen, became blanched in the face, and covered with cold sweat. Her husband thought her dying. When seen she was in a state of collapse, and complaining of dreadful pain. A vaginal examination detected, in Douglas's pouch, a soft semi-fluctuating mass, the uterus feeling normal. There was no hæmorrhage from the vagina. Above and to the right of the symphysis pubis there was dulness on percussion. The diagnosis made was extra-uterine gestation, rupture of cyst, and hæmorrhage into abdominal cavity. The patient lived four days, but never rallied much. Dr. Barnes saw her a couple of times, and the question of opening the abdomen was discussed, but decided against, in consequence of the collapsed condition of the patient. Dr. Barnes aspirated Douglas's pouch, and drew away eight ounces of blood. Post-mortem examination confirmed the diagnosis. There was tubal gestation on the right side, rupture of cyst, and about two pints of blood were diffused in the abdomen, not segregated. There was not a trace of peritonitis.

Dr. Wiltshire desired once more to renew his advocacy of the desirability of prompt operative interference in cases of threatened death from internal hæmorrhage arising from ruptured tubal fœtations, or from rupture of varicose veins of the broad ligament, particularly in the former cases, where the diagnosis was reasonably clear. It was distressing to witness rapid dissolution from internal hæmorrhage without an attempt being made on reasonable grounds to arrest it.

Mr. Lawson Tait entirely agreed with Dr. Wiltshire. Such cases ought not to be allowed to die without an effort to save them by arresting the hœmorrhage. Before his present position, of entire absence of fear of the peritoneum, he had allowed two quite similar cases to die without operation, but he would never do so again. In any case of doubt the diagnosis could easily be set at rest by an exploratory incision, a proceeding in itself perfectly safe and far more satisfactory than tapping.

Dr. Routh, on inspection of the specimen of extra-uterine fœtation, noted *in utero* the presence of a fully developed decidua, and he thought this appearance pointed to the advantage likely to accrue by dilatation of the os in doubtful cases, which would allow of such decidua being felt, or a little portion withdrawn and examined under the microscope. Perhaps also it might lead to its expulsion and more careful examination. The existence of a true decidua, with a growing tumour such as he had before stated was pathognomonic of extra-uterine function, would clear up the diagnosis.

Dr. Carter thought that in cases like the one described by Dr. Daly, in which the cyst of an extra-uterine fœtation had ruptured, and where, as here, the diagnosis was clear, operative interference should be advised. If let alone the patient succumbed, as in this instance, and the specimen showed how easily the ruptured cyst could have been ligatured at its attachment and removed. In cases of ruptured ovarian cysts immediate interference has been very successful.

Dr. Chahbazian.—In the case of the English actress who died in Paris, the death had been so sudden that no idea of an intervention whatever could have come in the mind of a French physician. She was taking an ice in a café of Bois de Boulogne, she fell down suddenly, and she was dead. Poisoning being suspected, her corpse was sent to the "Morgue," and there the "necropsy" being made we examined the stomach and the whole organs of digestion, always with the idea of a poisoning. No trace of poison being found, we discovered incidentally the bursting of the pouch of an extra-uterine fœtation. Then the diagnosis was made, but not before. I repeat, in this case no operation could have been tried, the death having been so sudden and the diagnosis impossible. Dr. Wiltshire says that this case is not the same as that he alluded to, and it was a case of "hæmatocele" not of extra-uterine fœtation. I cannot tell if the two cases are identical, but I can tell that she was an English actress. The reason why we have confounded the two cases is perhaps that for us, by M. Gaillard's (of Paris) teaching, the "hæmatocele" is very often an effect of an extra-uterine fœtation.

REMOVAL OF THE UTERINE APPENDAGES.

Mr. Lawson Tait said that on December 6th, 1881, he presented before the Pathological Society a series of cases

in which he had removed the uterine appendages on account of the occlusion of the Fallopian tubes and their distension by fluid, either serous or purulent. The preparations from these cases are now mounted and exhibited in the Pathological Series of the Hunterian Museum.

Since that date he had operated in eighteen cases, the preparations of three of which had been exhibited before the Surgical Society of Ireland, and were now in the Museum of the Royal College of Ireland. He exhibited the remaining fifteen preparations. An analysis of the series showed:

Five cases of double hydrosalpinx.

Nine cases of double pyosalpinx.

Two cases of pyosalpinx in the left tube with hydrosalpinx in the right.

There were also two cases of chronic ovaritis with adhesion of the appendages in the *cul-de-sac*. Uniform symptoms were: intense pain aggravated by walking and by marital intercourse, the latter being in most of the cases altogether intolerable; and most especially was the pain increased at the menstrual period.

In most of the cases menstruation was profuse, and in two it had quite a hæmorrhagic character. In one case only was it scanty. In one case the pyosalpinx was of an acute character, the immediate result of gonorrhœa, and the inflammation had extended into the general peritoneal cavity, which contained pus. In four other cases the pyosalpinx was clearly to be traced to gonorrhœal infection. In four cases the condition was probably due to, certainly had been aggravated by the use of pessaries. Fifteen out of the eighteen cases had been treated with pessaries, and of course without any benefit.

Mr. Tait exhibited the specimens to show that the criticism offered against him of removing uterine appendages unnecessarily was altogether unfounded. No other treatment had been or could be of the slightest benefit. Immediate and complete relief was obtained in most of

the cases, and in those where this was not the case the improvement was slower, but satisfactory, even when it extended over some months. There was no mortality from the operation at all, though it was far more difficult than any ordinary ovariotomy, the trouble from adhesions and hæmorrhage being often very great.

He objected to the operation being termed "spaying" or "castration of women" or "normal ovariotomy." These names were very unfortunate, as they conveyed the idea that healthy appendages were removed from healthy women. He had never performed such an operation. He equally objected to the term "oöphorectomy," as in the great majority of the cases it was the tubes and not the ovaries which were in fault, the removal of the ovaries being then a mere incident in the proceeding.

The critics of the operation alleged that unnecessary operations were performed. This might be so, though he did not think so. If so, it was the inevitable result of imperfect knowledge in the early stage of every medical and surgical proceeding. But there was another moral point of far greater importance which the critics forgot. There were hundreds of suffering women to whom removal of the uterine appendages offered a certain and the only method of relief, and the misrepresentations to which the operation was being subjected would prevent some, who were sensitive to criticism, from doing their duty to their suffering patients.

Mr. Tait regarded the operation in the neurasthenic class of cases as being of very doubtful value. He had operated only on five such pronounced cases of menstrual epilepsy, and he was not disposed at present to go further with it, the results were so uncertain in two of his cases. For the relief of the symptoms of myoma he found that the operation in his hands now had a mortality less than that of lithotrity in the male, so far as he could ascertain that mortality, and its after results were more certain that those of crushing stone in the bladder. For the third class of cases, those from which he had

No.	Residence.	Med. attendant.	Age.	Married or single.	Disease.	Operation.	Date.	Hosp. or private.	Recovered.	Died.
							1881			
1	Walsall	Dr. Hubbard	32	M.	Double hydrosalpinx	Uterine appendages removed	Dec. 10	H.	R.	—
2	Birmingham	Mr. J. R. Harmar	49	M.	„	„	„ 16	P.	R.	—
							1882			
3	Somerby, Leicester	Dr. Jackson	35	M.	Adherent ovaries	„	Jan. 6	P.	R.	—
4	Birmingham	Mr. J. Greene	28	M.	Double pyosalpinx	„	Feb. 2	H.	R.	—
5	„	Mr. J. R. Harrison	35	S.	„	„	„ 9	H.	R.	—
6	„	Dr. Vinrace	43	M.	Chronic ovaritis	„	„ 18	H.	R.	—
7	London	—	27	M.	Double pyosalpinx	„	„ 22	P.	R.	—
8	Birmingham	Mr. Holbeche	34	W.	Double hydrosalpinx	„	„ 27	H.	R.	—
9	Stafford	Dr. Day	28	M.	Left pyosalpinx; right hydrosalpinx	„	March 4	H.	R.	—
10	Walsall	Mr. Willmore	46	M.	Double hydrosalpinx	„	„ 7	H.	R.	—
11	Stonehouse, Gloucester	Dr. Eshelby	37	W.	Left pyosalpinx; right hydrosalpinx	„	„ 10	P.	R.	—
12	Wednesbury	J. C. Garman	69	M.	Double pyosalpinx	„	„ 13	H.	R.	—
13	Birmingham	Dr. Hickinbotham	38	M.	Double hydrosalpinx	„	April 11	H.	R.	—
14	Walsall	Dr. Holiday	31	M.	Double pyosalpinx	„	„ 12	H.	R.	—
15	Birmingham	Mr. C. J. Bracey	38	M.	Acute pyosalpinx	„	„ 21	P.	R.	—
16	Walsall	Mr. G. Sharp	28	S.	Double pyosalpinx	„	„ 27	H.	R.	—
17	Manchester	Dr. Lloyd Roberts	32	M.	„	„	June 28	H.	R.	—
18	Sutton Coldfield	Dr. Evans	28	W.	„	„	„ 28	P.	R.	—

taken the appendages exhibited, it was the only treatment which offered a hope of relief.

Dr. CARTER showed a large uterine tumour weighing 16½ lbs. which he had removed from a patient aged 24. The pedicle was secured by Kœberle's serre-nœud, and fixed in the lower angle of the wound.

ON THE RELATION BETWEEN BACKWARD DISPLACEMENTS OF THE UTERUS AND PAINFUL MENSTRUATION.

By G. ERNEST HERMAN, M.B. (Lond.), M.R.C.P., F.R.C.S. Eng.

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IN a paper read last year before this Society, I considered the relation between anteflexion of the uterus and dysmenorrhœa. Although this question is closely allied to that which is the subject of the present paper, yet the kind of evidence available to determine them is different.

Retroflexion usually occurs in women who have had children, and is therefore more often than anteflexion complicated with, or a result of, other morbid conditions; such as subinvolution, chronic metritis, lacerated cervix, cervical endometritis, pelvic peritonitis, pelvic cellulitis, ovaritis, prolapse of ovaries, &c. Retroflexion being thus often associated with conditions which produce painful menstruation, the mere fact of the frequent co-existence of the displacement and the symptom does not show that the former is the cause of the latter. It therefore does not seem to me important to seek for facts to show the frequency with which dysmenorrhœa is associated with retroflexion. While some say the painful menstruation is due to the displace-

ment, others may maintain that it is accounted for by other concomitant conditions; but that the two often go together I think none will deny.

But a more important difference is this, in retroflexion we have a mode of proof in particular cases which the clinical history of anteflexion does not afford us: viz. that it is often possible to remove the flexion by a vaginal pessary; that is, an instrument which does not do anything to the uterus except alter its position and shape.

I believe that there are cases in which the uterus is displaced backwards and menstruation is painful; and in which, when the womb is kept by a vaginal pessary in the axis of the pelvic inlet, menstruation ceases to be painful. I do not think it necessary to give any statistical statement of the frequency of these cases, because for the purpose of the present paper it is unimportant whether such cases be few or many; if there be ever so small a percentage of cases in which dysmenorrhœa can be relieved by elevating and straightening the uterus, these cases require explanation.

This being the fact, the question to be settled is, whether in these cases the pain results from the uterus being bent, and the benefit from the uterus being straightened; or whether the pain is a result of some other concomitant condition.

It is plain that if the bending of the womb be the condition upon which the pain depends, dysmenorrhœa ought to be more frequent in cases of retroflexion than in cases of retroversion. This, therefore, is the first direction in which evidence has to be sought for. A good many diverse opinions might be quoted as to this question; some writers saying that retroflexion causes dysmenorrhœa while retroversion does not; others, among them Sir James Simpson, that there is no important difference between the two conditions. I shall only quote those who have taken the trouble to accurately record their experience in a numerical form. Winckel* has tabulated 250 cases of backward displacements. He found menstruation

* 'Die Pathologie der weiblichen Sexual-organe in Lichtdruck-abbildungen,' S. 127.

accompanied with pain in 18 per cent. of retroversions, and in 24·3 per cent. of retroflexions. Emmet,* out of 226 cases of retroversion, found menstruation attended with pain in 55, or 24·3 per cent., while of 28 "retroflexures" there was menstrual pain in 10, or 35·7 per cent. I have gone through my out-patient case-books, and picked out all the cases of backward displacements in menstruating women of which I have notes. I have excluded not only those who had passed the menstrual age but also those who were suckling, or had too recently recovered from labour or abortion for the catamenia to have regularly recurred. I find records of 85 cases of retroflexion and 53 of retroversion (I class as retroflexion cases in which the uterus is distinctly bent). Of the 85 cases of *retroflexion*, in 21 menstruation was painless. In 18 menstruation had from the beginning been acompanied with pain. In two of these the dysmenorrhœa was relieved by straightening the uterus, and in 5 without doing so, *i.e.* either without mechanical treatment, or by a pessary which merely raised the uterus without straightening it. In 7 the dysmenorrhœa was not relieved, although the uterus was straightened. In 38 the menstrual pain was of recent date, having come on with the other symptoms supposed to be due to the displacement. Of these, in 7 it was relieved by straightening the uterus; in 6 relief followed although the uterus was not straightened; and 7 were not relieved although the uterus was straightened. In 8 the time when the menstrual pain began is not stated: in one of these relief followed the straightening of the uterus. Of the 53 cases of *retroversion*, in 23 menstruation was painless. In 11 that function had been painful from the first. In 4 of these it was relieved by keeping the uterus in the axis of the pelvic brim, in one without doing so, and in another, relief followed the use of a pessary, but I was not sure of the position of the uterus. In 16 cases the dysmenorrhœa was recent, and had come on with the other symptoms supposed to be due to the displacement.

* 'Principles and Practice of Gynæcology,' pp. 300 and 334.

In 6 of these it was relieved by keeping the uterus in the axis of the pelvic brim, 3 were relieved although this was not effected, and 2 were not relieved although the uterus was kept in the axis of the inlet. In 3 there was dysmenorrhœa of date not recorded, in one of which relief followed the maintenance of the uterus in the axis of the pelvic brim. The cases left unaccounted for in the foregoing enumeration, are those in which I have no record of the effect of treatment.

It is impossible, from causes needless to mention, in hospital out-patient practice to make notes as complete as one would wish. I submit, however, that in the present question the most trustworthy results are those obtained from the out-patient department. If we take patients into the hospital, the beneficial influences of rest, and the other hygienic advantages, mental and physical, of a hospital, play a large part, and may even be the sole agent, in causing the disappearance of symptoms. But, in dealing with out-patients, the correction of the displacement is the most important thing done: the patient's mode of life generally continues the same after the mechanical treatment as it was before it.

The figures given show that painful menstruation was more common with retroflexion than with retroversion. Only 24·7 per cent. of the cases of retroflexion were quite free from pain at the menstrual period, while 43·4 of those with retroversion menstruated without any pain. Menstrual pain of recent date, coming on with the other symptoms supposed to be due to displacement, was described in 44·7 per cent of the cases of retroflexion, but only in 30·2 per cent. of the cases of retroversion. My experience, therefore, agrees with that of Emmet and of Winckel, that menstrual pain more often accompanies backward displacement of the uterus when the organ is bent than when it is not. But it is to be noted that they also agree in showing that the difference is not great.

The conclusion to which these figures point being accepted, this connection of painful menstruation with

retroflexion of the uterus has to be explained. One view which has been held needs to be first mentioned, lest it should be thought that it had been overlooked, viz. that the retroflexion and the dysmenorrhœa are both results of uterine congestion, the displacement requiring no special treatment, but disappearing when the congestion is removed. This view has so often been discussed that I shall not go over the same ground again. I will only point out that if the statement made at the beginning of this paper be correct, that there are cases in which dysmenorrhœa will cease when a retroflexed uterus is kept in the axis of the pelvic inlet, that is, that there are cases in which the displacement is the immediate cause of the symptoms, it matters not, for the purpose of this paper, whether such cases are few or many. If they are only a small minority they nevertheless need to be accounted for.

I assume, then, that there are cases in which the displacement causes the dysmenorrhœa. There are three ways in which this has been explained.

The first theory is, that at the point of flexion the canal is narrowed or blocked. It is said, and illustrated diagrammatically, that the uterine canal is bent at an angle; that at the point of bending a spur, or promontory of tissue, projects into the canal and prevents the menstrual fluid from getting out; that this retained blood dilates the uterine cavity, and provokes painful contractions of the organ, which sometimes drive the blood, unable to find an exit elsewhere, along the Fallopian tubes into the peritoneal cavity, forming a pelvic hæmatocele.

The second theory is, that when the uterus is bent, the vessels, especially the veins, at the point of flexion, become "strangulated," and hence arises congestion of the part to and from which the strangulated vessels carry blood.

The third explanation is, that when the body of the uterus sinks down into the pouch of Douglas, the veins which return the blood from the uterus and run in the broad ligaments, are compressed against the utero-sacral ligaments which bound the pouch of Douglas on either

side; hence the return of blood from the body of the uterus is impeded and congestion is the consequence.

I propose to compare these theories; to inquire first what anatomical evidence there is in favour of each of them, and then how far they explain the clinical facts.

To prove that retroflexion of the uterus causes angulation or obstruction of the uterine canal, dilatation of the uterine cavity, or reflux of blood through the Fallopian tubes, specimens are required showing the morbid conditions in question.

There is, in the museum of the Middlesex Hospital,* a specimen which is figured in Dr. Barnes's work on the diseases of women as one of retroflexion of the uterus.† The bending is extreme, the axis of the upper part of the body being nearly parallel to that of the lower part of the cervix. The curve is quite gradual: there is no angle in the canal anywhere, and there is no dilatation of the uterine cavity, nor is there any appreciable atrophy of the uterine wall. There appear to be bands stretching across the canal: and in the text of Dr. Barnes's work it is stated that there was atresia; but if so, the atresia cannot have taken place until after menstruation had ceased, as there is no retention of menstrual fluid. It seems to me, however, possible that the appearance of atresia may be simply due to the section not having been made exactly in the middle.

In the museum of King's College there is a specimen‡ in which the uterus is fixed by adhesions in a position of slight retroflexion. There is another specimen of retroflexion in the museum of University College,§ and there is also one in the museum of the Royal College of Surgeons

* $\frac{1}{4}^{4}$. This specimen is named in the Museum Catalogue an anteflexion. Dr. Barnes, in his book, speaks of it as a retroflexion. Through the courtesy of Dr. J. K. Fowler, Curator of the Museum, I have been allowed to take this specimen out of its bottle and examine it; and it appears to me that the round ligament is situated towards the concavity of the bend, and the Fallopian tube and ovary towards its convexity, and therefore that the specimen is correctly entered in the Catalogue as one of anteflexion.

† 'Clinical History of the Diseases of Women,' 1st edition, p. 697.

‡ 988—1. § $T\frac{D}{2}$.

of England.* In none of these is the bending very great; but there is no angle in the canal of either of them, nor any dilatation of the uterine cavity. Winckel† gives five photographs from nature of sections of retroflexed uteri. Two of these (Tafel xvi, figs. 3 and 5) represent cases in which the bending is slight, and two of them (Tafel xvii) cases in which it is pronounced; but in none of them is there any angulation of the canal, which is in each of them bent in a gentle curve; nor is there any dilatation of the cavity of the uterus. The other specimen presents an intermediate degree of bending, and is described as showing dilatation of the uterine cavity, the walls of which are not quite in such close approximation as is usual. The curve of the canal is here less gradual than in the other photographs, but there is no projecting spur of tissue, and the whole canal is rather more patent than usual, even at the point of flexion. Even if the slight separation of the anterior and posterior walls of the uterine cavity which here exists can be called dilatation, the plate shows no narrowing of the canal to account for it.

My search, in short, has failed to find any specimens, or drawings from nature, showing angulation of the uterine canal, or narrowing of its calibre, in an otherwise healthy uterus, in consequence of retroflexion. There are diagrams which show this, and which have been copied from book to book; but they are diagrams only, not professing to have been drawn from nature, and representing only the designer's idea of the shape of the uterus, not a condition ascertained by anatomical inspection.

But although the kind of evidence desiderated in the foregoing remarks is the most simple and satisfactory, yet it is not the only available anatomical evidence. If there be recorded cases showing obstruction to the exit of menstrual fluid solely in consequence of bending of the canal, such cases might be held to establish the theory.

* 2653 D.

† 'Die Pathologie der weiblichen Sexual-organe in Lichtdruck-abbildungen,' Tafel xvi and xvii.

There are cases on record in which accumulation of fluid in the uterine cavity has coexisted with retroflexion; and it is needful to examine these carefully to see what evidence they present that such accumulations were not merely concomitants, but effects, of the flexion. Winckel* says he has seen *hæmatometra senilis* with retroflexion. Sommer† gives a case in which there was retroflexion of the uterus, and in the neighbourhood of the bend both uterine walls were alike so thinned that they were hardly thicker than cardboard, and the uterine cavity was dilated into a round sac containing a thick, blackish-red pulpy fluid. The patient was fifty-nine years old, had had many children, and had ceased to menstruate for ten years. In the same paper he gives three other cases, in which the patients were within the child-bearing age, and flexion of the uterus was found post mortem. In one of them uterine symptoms, the account of which is not very definite, had been present during life. There is no mention in the report of any of them of the uterine cavity being dilated. Martin‡ gives an account of three autopsies in which retroflexion was discovered. In none of them does he relate that the uterine cavity was dilated. Virchow,§ after describing the way in which flexions lead to atresia, says he has seen it *in old women*. The authors quoted, it will be noticed, all agree in this, that they have only seen hæmatometra, with flexion, in old women. A case is given by Kiwisch‖, which appears to show that when the uterus has undergone senile atrophy, it may become bent in such a manner as to lead to retention of fluid in its cavity. In this case there was retroflexion with hydrometra, which disappeared spontaneously when the body of the uterus was lifted up. Kiwisch does not mention the age of the patient, or any other particulars about the case, except that¶ it was of

* Op. cit., S. 97.

† 'Deutsche Klinik,' 1850, Nr. 18, S. 196.

‡ 'Neigungen und Bengungen,' 2te Auflage, S. 44.

§ 'Gesammelte Abhandlungen,' 1856, S. 820.

‖ 'Klinische Vorträge,' 1 Abtheilung, dritte Auflage, 1851, S. 99.

¶ Op. cit., S. 322.

slight degree. He makes a general statement that hydrometra occurs in old women, and not during menstrual life; if this case had been an exception to his experience, he would surely have mentioned the fact. It is scarcely necessary to point out that the conditions present when the uterus has undergone senile atrophy are widely different from those which obtain while it is in full development and functional activity.

I can only find three cases which show retention of fluid in the uterine cavity with flexion of the organ during the child-bearing period. One, which seems as if it might have proved the theory, is so briefly reported that no conclusion can be drawn from it. It is mentioned by Scanzoni,* who says, "Another of our patients, thirty years old, affected with a retroflexion, died two days after the return of the menses. We found the womb considerably dilated; it contained nearly two ounces and a half of semi-liquid, semi-coagulated blood in little clots." He does not mention whether or not there was any blocking of the canal; and as he elsewhere states his opinion that flexions of the uterus cause no symptoms unless accompanied by other morbid changes in that organ,† it does not seem that the case was convincing to his mind.

Another case, which bears on the question, is recorded by Virchow.‡ It is one in which there was almost complete atresia, with retention of mucus, in a uterus which was quite fixed, much displaced to the right, retroflexed, and dilated. The patient's general symptoms were so grave that, until she had been examined, it was thought that she must be suffering from cancer. The cervical canal was enlarged with the knife, and the retained fluid let out. The patient got well, her symptoms gradually diminishing, and she menstruated regularly, *although the uterus remained in the same position.* This case, it will be seen, is not one of simple uncomplicated flexion, for the

* 'Practical Treatise on Diseases of Women.' Translated by Gardner. P.105.

† Op. cit., p. 112.

‡ Op. cit., S. 829.

uterus was fixed by adhesions; nothing is stated to show that the flexion was the cause of the stenosis; and the accumulation did not return, although the uterus remained retroflexed. If the case proves anything, it proves too much, for it shows, that in treating retention of fluid associated with flexion, correction of the shape of the uterus is unimportant.

There is yet another case which requires particular mention. The specimen was exhibited to this Society by Dr. Robert Barnes.* The uterus was two and a half times its natural size, retroflexed, and adherent; and there was hæmorrhage into the peritoneal cavity. The interpretation of these appearances given is: "Under the retroflexion there was virtual closure of the os internum, thence retrograde distension and dilatation of the cavity of the body of the uterus and of the tubes, with great hyperplasia of the uterine walls. When blood was poured into the uterine cavity it excited expulsive effort, and the contents being not able to escape by the cervical canal, it flowed back along the tubes into the peritoneal cavity." Dr. Barnes further adds that "he was not clear as to the order of events in this case." It seems to me that the case is open to another interpretation. It is stated that "no ovum was found," which suggests that the condition of the uterus was consistent with the supposition of recent pregnancy. It is only stated of the os internum that it was "virtually" closed; the adjective implying that the closure was at least not absolute. The abdominal symptoms followed the forcible replacement, under anæsthesia, of the adherent uterus, and they seem to have been at first those of inflammation rather than of internal hæmorrhage. Menstruation had ceased four days previously. No symptoms are recorded until after the uterus had been replaced; and it may be presumed that this would not have been attempted had acute symptoms been present. Cases published by Bernutz and Goupil† show that because blood

* 'Obstetrical Transactions,' vol. xx, p. 102.

† 'Diseases of Women,' New Sydenham Society's Translation, vol. i, p. 65.

is found in the tubes it does not follow that it has reached them from the uterus. I therefore see no reason for attributing the peritoneal hæmorrhage to the menstruation ; and it seems to me the more natural explanation, that it took place from vessels torn in the forcible reposition of the uterus, or as a part of the inflammation so caused.

These are the only published cases that I can find which support the theory that retroflexion of the uterus involves hindrance to the escape of its contents. Scanzoni's case may be set aside, as it failed to convince him. We have two cases, reported by Virchow and Robert Barnes, in which, admitting, in spite of the objections to that view, that there was obstruction to the uterine canal in consequence of flexion, there was also adhesion. But because a uterus through being fixed by adhesions in a bent position may become unable to expel its contents, it does not follow that bending must obstruct the canal of a freely moveable uterus. Nor, because an atrophied uterus with thin walls may get so bent as to block its canal, does it follow that the same thing will result from bending of a uterus with walls of natural thickness. It may be said that thinning of the uterine wall is a consequence of the flexion. But there is evidence that extreme flexion may exist for years without being accompanied by atrophy ; this atrophy at the point of flexion is rare, and has indeed been so seldom seen that there is difference of opinion as to whether it takes place on the convex or concave side of the bend ; and there are rare cases in which, without flexion, changes in the uterus similar to those which take place in old age, come on years before the usual time. It is at least possible that the flexion may be the result of the atrophy. Winckel* adds to his anatomical description of his specimens of flexion ; "it must be here added, that in spite of long persistence, and high degree of bending, the tissue at the bent parts in by far the majority of cases shows changes in no way so evident as one might indeed

* Op. cit., S. 93.

have expected before having made a section through them."

The opinion that flexion of the uterus causes atrophy of the uterine wall at the point of bending, rests almost entirely on the authority of Professor Virchow, of Berlin; for no writer, so far as I know, who has adopted this view, has had opportunities for investigating this subject such as those possessed by this eminent pathologist. Dr. Virchow was so good as to show me, during a recent visit to Berlin, those which he has preserved of the specimens upon which his opinion is based. There are two specimens of retroflexion, in which the posterior wall, at about the level of the os internum, is distinctly thinner than the anterior. But the thinning, although appreciable, is not great. There is in neither of them any angulation of the canal, nor any dilatation of the uterine cavity. Dr. Virchow told me that he did not remember ever having seen dilatation of the uterine cavity as a result of flexion, although he had often met with it in old women without flexion. These specimens, therefore, do not show that flexion produces thinning so great as to permit bending of the organ to block up the canal. And even if it be assumed that there may be cases in which in the course of years atrophy consecutive to flexion may produce thinning to this degree, this possibility does not help us to account for a symptom which is of common occurrence, and which frequently comes on suddenly along with other symptoms such as are usually associated with uterine displacement.*

The facts which seem to me important are these: that I can find no recorded case showing evidence that flexion of an otherwise healthy uterus had in the least degree obstructed its canal; the only cases in which there has

* In Dr. Virchow's museum there are also about a score of specimens of anteflexion, some of which show similar atrophy. In the most pronounced cases the uterus is fixed by adhesions in the bent position. In none of them does the atrophy reach a high degree; in none is there any angulation of the canal, nor any dilatation of the uterine cavity.

been any reason to suppose that such obstruction was present are one in which there was senile atrophy, and two in which the uterus was adherent.

Cases have been published in which pelvic hæmatocele coexisted with retroflexion. As there are many causes which may lead to pelvic hæmatocele, its existence along with flexion is no proof that it must have come about by reflux of blood through the Fallopian tubes in consequence of obstruction of the uterine canal due to flexion. It is only post-mortem evidence that can prove this. Winckel* mentions a case in which, in a patient who died from enteric fever, traces of an old hæmatocele were found along with a retroflexion of the uterus. He does not mention that the uterine canal was obstructed or its cavity dilated, but merely that the uterus was retroflexed at an obtuse angle. Martin† gives a case in which hæmatocele came on in a patient who had a retroflexion of the uterus. The body of the uterus was enlarged, being an inch longer than usual, but no dilatation of the cavity is mentioned, and the hæmatocele is attributed by Martin to violent use of the uterine sound.

This seems the most suitable place in which to refer to a case which occurred in the London Hospital, and which is published in the second edition of Dr. Barnes's work on 'Obstetric Operations.' The patient had an acute retroflexion, and suffered from metrorrhagia, to check which a solution of perchloride of iron was injected into the uterine cavity. This fluid was shown by autopsy to have run along the Fallopian tube into the peritoneum. The important feature in the case from the point of view of the present paper is, that although the Fallopian tube was patulous, allowing the perchloride solution to run along it, and there was excessive hæmorrhage, and the very condition, viz. an acute flexion, which, according to the theory, ought to have hindered the outflow of blood, yet this fluid had all escaped through the flexed uterine

* Op. cit., S. 96.

† 'Die Neigungen und Beugungen der Gebärmutter,' 2te Auflage, S. 56.

canal, and not along the patulous Fallopian tube. It is clear that in this case the flexion did not lead to stenosis of the uterine canal.

Examination of the anatomical evidence in favour of the view that retroflexion of the uterus leads to obstruction of the uterine canal, brings me to this conclusion:

That there is no anatomical evidence that retroflexion of the uterus causes any hindrance to the outflow of fluid from its cavity, except when the uterine wall has been thinned by senile atrophy, or when the organ is fixed by adhesions.

The second theory, that flexion involves strangulation of the uterine vessels, is, so far as I have been able to ascertain, only a hypothesis, advanced to explain certain clinical facts. These clinical facts will be considered subsequently. No author, so far as I can find, has brought forward any anatomical evidence in support of the theory. The specimens which exist of very acute flexion without any signs of congestion or strangulation, show that the uterus may be bent to the greatest extent without any strangulation occurring. If such strangulation were present, it would seem to me difficult to explain it anatomically, because the larger vessels by which blood is brought to, and returned from the uterus, enter it at the side, running transversely to its long axis, and therefore would not be materially compressed by a bending of the organ in that axis. This theory seems to me, therefore, not only devoid of anatomical evidence, but not consistent with anatomical facts.

I come now to the third theory, that of pressure on the veins by the utero-sacral ligaments.

The space allotted to the description of these ligaments in anatomical books is small. Those who mention them agree in saying that they are very variable. I have therefore acquainted myself with their disposition by observation in the deadhouse. I need not detail the observations that I have made, it will be sufficient to say that I have examined enough bodies to satisfy myself of the facts that I am about to mention. The accuracy of the

following statements can be verified by any one who will take the trouble to examine a sufficient number of bodies.

1. The sacro-uterine ligaments vary very much in size and shape. 2. They may be quite absent, *i.e.* the peritoneum passing from the uterus to the latero-posterior wall of the pelvis and bounding Douglas's pouch, may not form any distinct folds, but merely cover the subjacent parts as a smooth undulating layer. 3. There may be on each side a tense fold, having a sharp concave edge looking nearly directly inwards, and thus rendering Douglas's pouch a sac, the entrance into which is its narrowest part. 4. Between these two extremes there may be every kind of intermediate form; the folds may vary indefinitely in size, tension and sharpness, approximation and direction. Both sides may be nearly alike; there may be a sharp fold on one side, and none on the other, and every intermediate condition may be met with. 5. If, in a body in which these ligaments do exist as tense bands, the fingers be applied to the front of the uterus, and its body pressed down backwards into Douglas's pouch, the broad ligaments will be found to be pressed against the utero-sacral ligaments. If, in such a subject, the uterine body be pressed down deeply into Douglas's pouch, the cervix will be found to move slightly upwards and forwards, and the utero-sacral ligaments to become more tense than they were before, and therefore capable of exerting greater pressure on the broad ligaments. As the veins which return the blood from the body of the uterus run in the broad ligaments, it is plain that the pressure of a tense band upon these structures must obstruct the return of blood from the uterine body; therefore we have here anatomical conditions capable of producing congestion of the uterus.

But further, one observation has been recorded which shows that congestion from this cause is not only possible but has actually occurred. In a paper by Dr. John Williams, published in the 'Transactions' of this Society,

the following statement occurs:* "Dr. Squarey kindly brought me a uterus which was slightly retroflexed. Posteriorly along the sides of the body of this uterus were distinctly seen the marks of these ligaments. The flexion was but slight, and no part of the broad ligaments had been drawn within the grasp of the constricting bands, yet the mark of the bands on the body of the uterus unmistakably pointed out their constricting action."

The effect of these ligaments in producing uterine congestion was, I believe, first pointed out by Dr. J. Williams in the paper referred to. He there speaks of "constriction of the body of the uterus;"† and he says,‡ "in retroflexion the body of the uterus and the veins of the broad ligaments may become grasped by the sacro-uterine ligaments, and thus become greatly congested." I do not doubt that this statement is correct of some cases. But it is quite possible for the bands of peritoneum in question to press on the veins without grasping the body of the uterus; and the anatomical condition which permits such grasping is rare as compared with that which permits pressure; and therefore the cases in which such grasping occurs must be proportionately rare.

The position of these three theories, therefore, as regards anatomical evidence, is the following:

1. The proposition that bending backwards of a uterus which is in functional activity and free to move, leads to blocking of its canal and retention of menstrual fluid, is not supported by anatomical evidence.

2. The hypothesis that bending backwards of the uterus leads to strangulation of the vessels at the point of flexion, is also unsupported by anatomical evidence.

3. The statement that depression of the body of the uterus into Douglas's pouch may cause the veins in the broad ligament to be pressed upon by the utero-sacral ligaments, is consistent with anatomical facts; and there is the evidence of a competent observer that in one case such pressure was anatomically proved to have occurred.

* Vol. xvi, p. 215. † P. 214. ‡ P. 216.

Of course it does not follow that because anatomical evidence of a theory has not been adduced that therefore such evidence does not exist. But in considering the probability of such proof being yet forthcoming, it must be remembered that it is now more than fifty years since the attention of the profession was first called to the importance of these displacements as morbid conditions; that since then great attention has been paid to the subject, and much written about it, and that these conditions are very frequent. Therefore, if they do bring about the morbid changes which it is assumed they produce, it is very surprising that during all that time no one has ever met with or thought it worth while to describe any post-mortem specimen illustrating them.

If, however, we find these theories adequately explain clinical experience, we might be content to wait for anatomical proof to be furnished in the future. I come, therefore, now to consider the clinical facts.

For the sake of clearness I may repeat the general propositions which I take for granted; viz. that backward displacements of the uterus may cause menstrual pain, that such menstrual pain is more often associated with retroflexion than with retroversion, and that backward displacements of the uterus may cause congestion of the organ. The questions, therefore, to be discussed are:—(1) Is the pain due to blocking of the uterine canal at the point of bending? or (2) is it explained by congestion due to strangulation of vessels at the point of flexion? or (3) by congestion from pressure exerted by the utero-sacral ligaments on the veins in the broad ligaments?

In considering the subject it appears to me unnecessary to offer in support of my statements notes of cases or statistical tables. Statistics, it has been truly said, are only multiplied assertions put in a numerical form. Retroversion and retroflexion of the uterus are conditions so common that any one with a large clinique can judge for himself whether the assertions made are in accordance with experience. All I shall do will be to state certain

general facts of which experience has made me feel sure, and to point out their bearing on the question at issue.

First.—It is a fact admitted by nearly all writers on the subject, that the most acute retroflexions are sometimes found without any symptoms. Now, if a mere bend in the canal were enough to obstruct it, such a thing as an acute flexion without painful menstruation ought not to be met with. But if, by some unusual quality, such as exceptional fluidity, or scantiness, of the menstrual fluid, this could be explained, such a solution of the difficulty does not help us with regard to the strangulation theory. If flexion strangulates the vessels, the strangulation ought to be in proportion to the sharpness of the bend, and ought invariably to accompany acute flexion. Both these theories, therefore, seem to me contradicted by this clinical fact. But, on the hypothesis that the menstrual pain is due to congestion, and the congestion to pressure exerted on the veins of the broad ligaments by the utero-sacral ligaments, the occurrence of cases of extreme displacement without any dysmenorrhœa is satisfactorily accounted for. The utero-sacral bands may be altogether absent, or be so small, so wide apart, or so lax as to be incapable of exerting pressure on the veins in question. When such a disposition of peritoneum exists, backward displacement of the uterus may be present to any extent without congestion being produced. This theory is therefore consistent with the facts, while the others are contradicted by them.

Second.—The remarks just made apply also to an allied clinical fact, viz. that cases are met with of retroflexion along with dysmenorrhœa, in which elevation and straightening of the uterus is followed by removal of the symptoms, and subsequently the flexion returns, but not the menstrual pain. In these cases it is clear that not the flexion, but some concomitant condition must have been the cause of the symptoms. The theory of congestion of the uterus from pressure on its veins by the utero-sacral ligaments affords an explanation of these cases, although not the

only one that might be given; for if we suppose that in the first instance the flexion was accompanied with a good deal of descent, but not so afterwards, we can understand how these veins should be pressed on at one time and not at another.

Third.—Another clinical fact, closely related to those just mentioned, is this—that cases occasionally occur in which relief to dysmenorrhœa follows the application of a pessary which does not straighten the uterus, but presses into the concavity of the bend. On the supposition that the relief follows because the uterus is pushed up, and the veins in the broad ligament thus relieved from pressure, such cases are at least explicable; but, on the view that bending is the cause of the functional disturbance, they are hard to understand.

Fourth.—Menstrual pain may accompany backward displacement of the uterus without any flexion, *i.e.* retroversion, and be relieved when the uterus is supported in or near the axis of the pelvic brim. Although it is somewhat less frequent with this condition than with retroflexion, yet it does occur. It is obvious that neither the theory of obstruction to the canal, nor that of strangulation of the vessels from flexion, helps us in the least to understand these cases. The hypothesis that the symptoms result from pressure on the veins running in the broad ligament, by the utero-sacral ligaments, satisfactorily explains the presence of the pain with retroversion and its relief by mechanical support.

Fifth.—The main fact appealed to in support of the theory of strangulation of the vessels at the point of flexion is that, in retroflexion, the uterus is so often found congested, as evidenced by its being swollen, tender, and bleeding copiously from slight causes. This may be accounted for either by strangulation of the vessels at the point of flexion, or by pressure on the veins in the broad ligaments. If the former, it is surprising that bending forwards of the uterus is so seldom accompanied by the same symptoms. Anteflexion, acute in degree, is

oftener met with than equally acute retroflexion, but is seldom accompanied with symptoms of congestion, certainly not nearly so frequently as retroflexion. If bending of the womb strangulated the vessels, congestion ought to be commoner with the kind of bending that is most frequent. Of this difference the strangulation theory offers no explanation. But if we suppose the congestion in retroflexion to be due to pressure exerted by the utero-sacral ligaments, this completely explains the presence of congestion with backward displacement, and its absence when the uterus is bent forward. The few cases in which the anteflexed uterus is accompanied with symptoms of congestion are only what would be expected, seeing how common anteflexion is (at least 40 per cent. of nulliparous women) unless it were a prophylactic against congestion.

Sixth.—The fact that menstrual pain is more frequent with retroflexion than with retroversion at first appears a strong argument in favour of the theories which ascribe the pain to some change connected with the bending. But it is explained equally well by the theory of pressure exerted by the utero-sacral ligaments. It has before been mentioned, that if, in a cadaver in which the utero-sacral bands are well developed, the body of the uterus is pressed backwards and downwards into Douglas's pouch, it will be found that the cervix uteri at the same time moves slightly forwards and upwards, and the utero-sacral folds become more tense. They, in fact, help to prevent the cervix from moving so far upwards and forwards as it would do if it were free; that is, they tend, in conjunction with a force pressing the body of the uterus downwards, to produce retroflexion instead of retroversion. The anatomical condition, therefore, under which congestion is produced when the uterus is displaced backwards, also tends to make the displacement a retroflexion, and to prevent its being a retroversion.

Seventh.—I put this point last, because it only tells against the strangulation theory. It is the case of retroflexion of the gravid uterus. Here the flexion is often

most acute. Cases of sloughing and ulceration of the uterus have been recorded; but they are very rare, and it is the opinion of one highly competent critic* that they were probably cases of extra-uterine gestation. If flexion caused strangulation, cases of this or allied changes ought to be quite common. But assuming congestion with retroversion to be due to pressure on the veins in the broad ligaments, the fact that the body of the three months' pregnant uterus is too big to enter Douglas's pouch, explains why the veins are not pressed on, and hence why the retroverted pregnant uterus is so seldom tender.

I now summarise the purport of this paper. It is taken for granted, as a matter of common observation, that there are cases in which dysmenorrhœa accompanies backward displacement of the uterus, and is relieved when the uterus is elevated and straightened. It is found that the experience of independent observers agrees with that of the author in showing that dysmenorrhœa is slightly commoner with retroflexion than with retroversion. The object of paper is to inquire into the explanation of these clinical facts.

Three explanations have been given.

A. That the dysmenorrhœa is due to narrowing of the canal at the point of flexion and consequent obstruction to the outflow of menstrual fluid. It is pointed out:

1. That there is an anatomical evidence to show that the uterus may be bent forwards or backwards, to the most extreme degree, without causing any appreciable hindrance to the escape of fluids from its cavity.

2. That there is no evidence to show that mere bending of the uterus ever obstructs the exit of fluids from the cavity of the organ, except when its wall has undergone senile atrophy, or when it is fixed by adhesions.

3. That it is found clinically that the most extreme flexions of the uterus may exist without menstrual pain.

4. That this theory does not explain cases in which relief is given to dysmenorrhœa with flexion by elevating without straightening the uterus.

* Barnes, 'Obstetric Operations,' 2nd edit., p. 248.

5. That it does not explain the occurrence of dysmenorrhœa, relieved by elevation of the uterus, in cases in which the uterus is simply retroverted but not bent.

That this theory is therefore not supported by anatomical evidence, and does not explain the clinical facts.

B. That the dysmenorrhœa is due to congestion produced by strangulation of the vessels at the point of flexion. It is pointed out:

1. That there is no anatomical evidence that such strangulation ever occurs.

2. That the most extreme flexions often occur without congestion.

3. That this theory does not explain the greater frequency of congestion with retroflexion than with anteflexion.

4. That it does not explain the occurrence of congestion with retroversion.

5. That it does not explain the usual absence of tenderness in retroflexion of the gravid uterus.

That this theory also is therefore unsupported by anatomical evidence, and does not explain the clinical facts.

C. That the dysmenorrhœa is due to congestion produced by the pressure of the utero-sacral ligaments on the veins running in the broad ligaments. It is pointed out:

1. That the anatomical disposition of the parts concerned is such as to permit such pressure.

2. That there is a recorded case showing anatomical proof that such pressure had actually occurred.

3. That the variations in the disposition of these ligaments explain the occurrence of extreme displacement, flexion or version, without symptoms.

4. That this theory explains the occurrence of dysmenorrhœa with retroversion as well as with retroflexion.

5. That it explains the greater frequency of congestion with retroflexion than with anteflexion.

6. That it explains the greater frequency of dysmenorrhœa with retroflexion than with retroversion.

7. That it explains the absence of morbid congestion in retroflexion of the gravid uterus.

That this theory, therefore, is supported by anatomical evidence and explains the clinical facts.

The general conclusion, therefore, to which the facts seem to point, is this:

That while dysmenorrhœa accompanying retroflexion is often, it may be generally, dependent upon other concomitant conditions, yet there are cases in which it is simply the result of the displacement; and that in such, dysmenorrhœa is probably entirely due, not to the flexion, but to the veins of the broad ligaments being compressed against the utero-sacral ligaments.

Dr. Heywood Smith agreed with what Dr. Herman had said about the unsatisfactory nature of statistics, yet he (Dr. Herman) had himself, in his use of them, given the idea that the symptoms referred to were mainly due to the retroflexion; and he seemed to have put up a series of explanations only to knock them over. Dr. Heywood Smith was convinced that although in some cases the symptoms of pain, &c., might be due to retroflexion, yet that such cases were in the minority, and the greater part of the symptoms were due, as Dr. Herman had said, to the concomitant conditions of such flexions. In multiparæ there was, in nearly every case of retroflexion producing pain, menorrhagia and dysmenorrhœa first, subinvolution, then congestion, and subsequently chronic endometritis and endocervicitis; that in these cases there was no true constriction at the point of flexion, but such constriction was only apparent in consequence of the abnormal patency of the cervical canal. Again, much of the pain and dysmenorrhœa present in these cases was referable either to the malplaced uterus pressing upon the ovary, or to the inflammation by contiguity setting up chronic ovaritis. He was much interested in the remarks of Dr. Herman with regard to the utero-sacral ligaments, for in a case that he had published he had been subjected to most unfair criticism at the hands of the journal already referred to by one speaker (Lawson Tait). A woman had come to him from a hospital for incurables with acute retroflexion, where on the uterus being replaced the utero-sacral ligaments were found as tight cords. One of these he divided per rectum (he thought in a future case it would be better to divide per vaginam). The operation (after a low form of peritonitis) had been perfectly successful, and the uterus remained in its normal

position. On the whole he considered that the dysmenorrhœa that was associated with retroflexion was due more to the concomitant and consequent pathological changes than to the flexion itself.

The PRESIDENT made remarks on the importance of Dr. Herman's paper as an illustration of the true and only method of making progress in a subject which had been obscured by most of what had been said or written on it. Especially Dr. Herman had finally disposed of two great and widely-prevalent errors. Others had given reasons for regarding these views as erroneous, but the question was now brought to an end by this paper. The errors were, first, that in retroflexion or anteflexion there was a visible or otherwise sensible spur of tissue, or other stricture, causing an obstacle to the passage of blood or other fluids from the body of the uterus to the vagina. He evidently believed there was no obstruction, but that he had not demonstrated. What he had demonstrated was the non-existence of such obstructions as had been described and figured. Such description and figures could not be too strongly condemned. Second, Dr. Herman had shown that there was no reason to believe that, behind the imaginary spur or obstruction, the uterine cavity was dilated. The evidence here was also completely destructive of the statements and figures to this effect. These two achievements were enough to make the paper a great one. He (the President) would not make many remarks that occurred to him on matters in which he concurred with the author, but confine his observations to two points. Reasoning in relation to dysmenorrhœa was made to turn on pain, that word being used without sufficient qualification. Now, pain was too ill-defined a term to be wisely made the basis of conclusions which had not other and stronger supports. We had, unfortunately, no good odynometry, either of degree or kind, and nothing was more wanted. This was especially true of the minor kinds of pain. One woman called excruciating agony what another spoke of as trivial; and doctors were not sufficiently careful in the use of the same terms. This vagueness of meaning of the word pain was well seen in its injurious influence in the excellent paper of Dr. J. Williams, discussed at their last meeting. There the pain of menstruation was spoken of, as in this paper. Now he (the President), when he spoke of the pain of dysmenorrhœa, regarded a pain generally of the first day and lasting for a half hour or for several hours, rarely far half a day, and for this pain he had an odynometry. When the pain caused cold sweat, or sickness and vomiting, he then recognised its indisputable great severity; when it was less severe than to cause these symptoms, he was then forced to make the best judgment he could, always an insecure one, founded on the mere estimate of the patient as criticised by his own common sense. Again, a great deal had been said, and well said, of the

strangulation, more or less complete, of the diseased uterus by the utero-sacral ligaments. These ligaments could, in many women, be easily felt by the finger examining per vaginam or per rectum, and there could be no doubt of their potency. Dr. J. Williams had shown this. But he would remind them that the pouch of Douglas scarcely descended below the level of the utero-sacral ligaments, and that in order to strangulation the fundus uteri must drive the peritoneal pouch before it as a hernia. Now, the fundus might descend into this new hernial pouch even so far as to come through the anus, pushing the rectum before it. But this or any kind of descent of the uterus, so as to be grasped by the utero-sacral ligaments, was a rare event. Ever since Dr. J. Williams's paper he had attended to this matter clinically, and his observations had yielded him nothing of sufficient importance to lay before the Society.

Dr. Herman said that as we had to deal with diseases of which pain was the chief symptom, it was impossible to avoid reasoning upon it; and although in individual cases we might be misled by exaggerated or incorrect statements as to pain, yet when we took a large number of cases such occasional errors were neutralised. He thought the disposition of the utero-sacral ligaments could be better ascertained by post-mortem investigation than by examination during life. He did not think the cases in which they caused congestion of the uterus were more than a small minority.

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OCTOBER 4TH, 1882.

J. MATTHEWS DUNCAN, M.D., F.R.S. Edin., President, in the Chair.

Present—47 Fellows and 4 visitors.

Books were presented by Dr. J. H. Aveling, Dr. Fancourt Barnes, Dr. Bulkley, Dr. Edward W. Jenks, Dr. Le Page, Dr. Macari, Dr. Playfair, Dr. Sinclair, Dr. Valenta, Dr. Wasseige, the American Gynæcological Society, the Council of University College, St. Thomas's Hospital Staff, the Smithsonian Institution, and the Medical and Chirurgical Faculty of the State of Maryland.

Dr. Swayne presented a new stem pessary to the Museum.

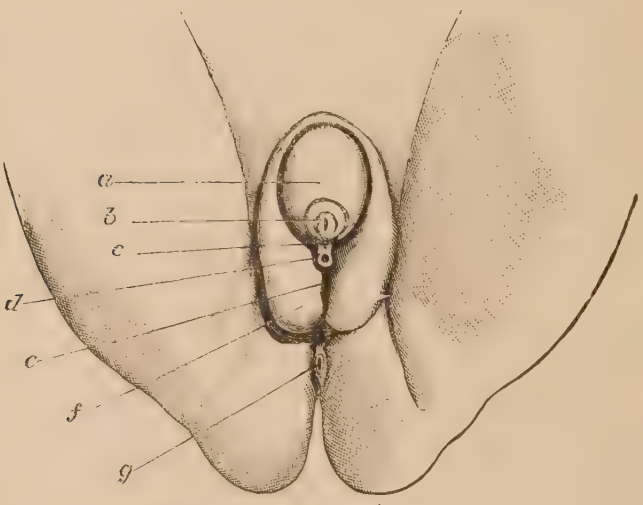
Walter Gripper, M.B. Cantab., was admitted a Fellow of the Society, John R. Somerville, M.D. (Chesterfield), and Thomas Cargill Nesham, M.D. (Newcastle-on-Tyne), were declared admitted.

George R. Edleston Bonsall, L.R.C.P. Ed., was elected a Fellow of the Society.

The following gentlemen were proposed for election :— Charles Egerton Fitzgerald, M.D. (Folkestone), Joseph William Hunt, M.B., B.S., Charles Egerton Jennings, L.R.C.P. Lond., Joseph Francis Porter, M.D., and Thomas Wholey, L.S.A.

SPURIOUS HERMAPHRODITISM.

Dr. Fancourt Barnes showed a child three weeks old, which had been born under his care at the British Lying-in Hospital. It came under the classification adapted by Sir James Simpson of spurious hermaphroditism. The drawing he had had prepared showed the condition of the external genitals to be as follows: there is a large clitoris or penis with gland and prepuce, at the end of the penis is a depression exactly simulating the meatus urinarius. From



a. Clitoris or penis.
b. Depression simulating meatus urinarius.
c. Frenum running into canal.
d. Canal from which urine is voided.
e. Sulcus between labia or halves of scrotum.
f. Body of labium or scrotum.
g. Anus.

the under surface of the clitoris or penis there is a frenum running into a canal which admits a full sized probe and from which urine is voided. The halves of the scrotum

or labia are separated by a sulcus running from the canal above named to the anus. The mother of the child is aged twenty-two years; she has had one other child, a female, which only lived eight weeks. Dr. Fancourt Barnes could find no trace of testes in the labia or in the groins, nor any trace of uterus. He considered the case to be most likely an example of male hermaphroditism.

Dr. Champneys asked Dr. F. Barnes whether he had made a rectal examination. In a somewhat similar case Dr. Champneys had been able by this means to detect the uterus and determine the sex. At Dr. Barnes' request Dr. Champneys explored the pelvis by the little finger per rectum, and satisfied himself that no such body existed in this case.

Dr. Swayne remarked that there was a specimen in the museum of the Bristol Medical School of a child with precisely similar external organs of generation, but with perfect uterus and ovaries, and that therefore he believed the child just shown to them to be a female.

HYPERTROPHY OF THE PLACENTA.

Dr. Herman showed a specimen of hypertrophy of the placenta. The patient had been delivered in the London Hospital Maternity Charity. She was thirty-three years old, had been married fifteen years, and this was her tenth child. She had never had any miscarriage, and her previous confinements had all been good, except that with three of them she had had "flooding;" but she had not heard of there being anything unusual about the afterbirth. All her children were born alive, but the last only lived half an hour. During the last two months of her pregnancy she had suffered from a "terrible pain" in the bottom of her stomach, which kept her awake at night, and the part was so sore that she could not bear the pressure of the bedclothes. She could not walk on account of this pain. Throughout the whole pregnancy she had great swelling of the legs, but otherwise was quite well until this

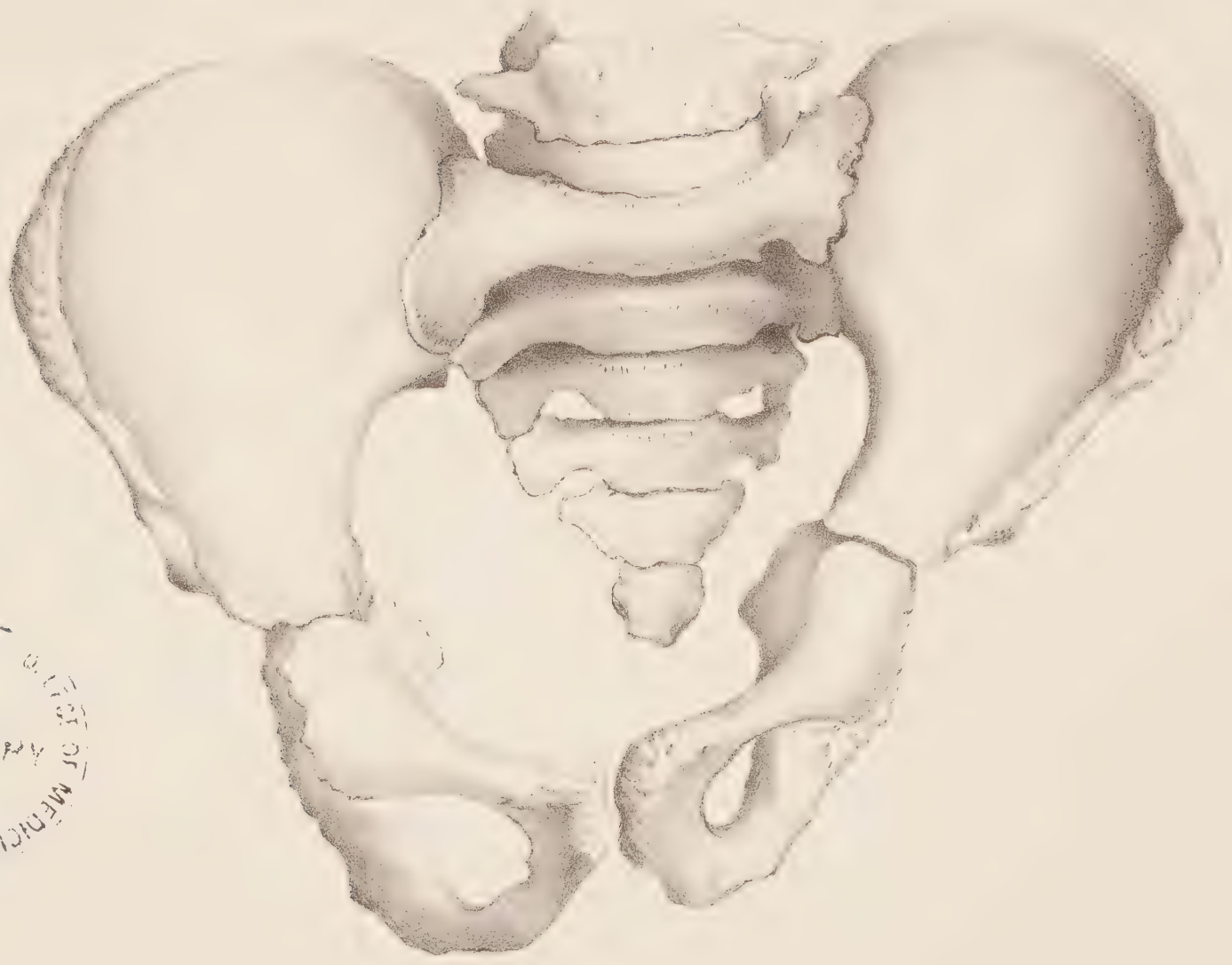
pain came on. During the last six weeks of the pregnancy she lost flesh very much. She ceased to feel any movements of the child two weeks before delivery. She began about the same time to lose blood from the vagina, at first only a little at a time, but later on in considerable quantity.

On August 29th labour pains began, and the hæmorrhage became much increased. The resident accoucheur was sent for, who found placenta prævia marginalis and delivered under chloroform by podalic version. The placenta was removed piecemeal, and Dr. Herman was informed that it weighed at the time 11 lbs., that all clots were separated before weighing, but that a good deal of fluid subsequently escaped. Part only was preserved and taken to the hospital, part being left behind in the patient's house. The part preserved, and which Dr. Herman now exhibited, weighed more than 4 lbs. To the naked eye it did not differ in structure from healthy placenta. The child was decomposing. It was judged to be of about eight months intra-uterine age. The mother suffered during the lying-in period from phlebitis, first of the superficial veins of both legs, then of the deep veins of the left leg. Excepting for this she made a good recovery.

Dr. Robert Barnes observed that in some cases of hypertrophy of the placenta which he had examined, there was dropsy of the placenta and ascites and anasarca in the mother and fœtus. It might be said that the placental villi were enormously increased in development in order to find sufficient pabulum in the hydræmic blood.

CALCAREOUS DEGENERATION OF PLACENTA.

Dr. Champneys showed for Dr. Murray (who was absent) a placenta which Dr. Murray thought was a good specimen of so-called "calcareous degeneration." In addition to this there was one peripheral cotyledon which showed "fibrinous degeneration," or the uterine and "calcareous degeneration," on the fœtal surface. The child was large, born alive, and the perinæum was very friable.



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ON THE OBLIQUELY CONTRACTED PELVIS OF A CHILD WITH LEFT SACRO-ILIAC SYNOSTOSIS, TOGETHER WITH REMARKS ON THE PELVIS OF NAEGELE.

By Francis H. Champneys, M.A., M.B. Oxon., F.R.C.P.,
ASSISTANT LECTURER ON OBSTETRICS, ETC., AND ASSISTANT OBSTETRIC PHYSICIAN TO ST. GEORGE'S HOSPITAL.

The following observation concerns the skeleton of the trunk of a child between the ages of seven and puberty, from the museum of St. George's Hospital. No reference to be found in the museum catalogue. Vertebral column, pelvis, and shoulder-girdles complete; coracoid processes of scapulæ ossified but not joined to scapulæ. Spines of all sacral vertebræ (except the second in which the laminæ have met but not fused) absent, leaving the vertebral canal open. Sacral vertebræ separate. The three portions of the ossa innominata separate, except that the descending rami of the pubes and the ascending rami of the ischia are firmly ossified together.

Maceration has removed all cartilages, and the pelvic bones have been joined together by metallic joints which preserve what must have been the approximate, but cannot be proved to have been the actual relative position of the parts during life.

This uncertainty refers more particularly to the lower bones of the sacrum and the ischio-pubic portions of the ossa innominata, while the numerous articulations of the vertebræ and the accurate adaptation of the ilia to the sacrum ensure the maintenance of their proper relative position; the intervertebral discs have been replaced apparently by felt or cork.

The vertebral column is deformed by a considerable kyphosis at the lowest thoracic vertebræ, below this region the lumbar vertebræ curve forwards, so that before the sacrum is reached the kyphosis seems to be compensated. The kyphosis is due to an abscess which has destroyed the bodies of the seventh thoracic to the second lumbar vertebræ

inclusive, and has produced ankylosis of the left articular processes between the ninth and tenth thoracic vertebræ, and of both right and left articular processes between the tenth and eleventh.

There are marks of an abscess also in the left *sacro-iliac joint*, which has eroded the adjacent surfaces of the lateral mass of the third sacral vertebra, below which there are no signs of disease. Except a specimen in St. Bartholomew's Museum of a sacrum and one innominate bone showing synostosis and distortion, a careful search has failed to discover a single similar specimen in London.

Description.

Vertebral column.—The cervical column has nearly the usual direction, but is slightly inclined forwards. In its lower part the normal curve is exaggerated, and this curve (convexity forwards) is continued as far as the kyphotic angle, replacing the usual opposite curve in the dorsal region. As far as this point the left side of all the vertebræ is anterior to the right and on a lower level. From the kyphotic angle to the sacrum the normal lumbar curvature is seen, and there is no relative rotation forwards or downwards on either side. Seen from behind, the spines of the vertebræ show a nearly vertical line, except that below the kyphotic angle they seem to very slightly approach the left side. This deviation certainly does not exceed the amount often seen in normal skeletons. The influence of the kyphosis on the pelvis will be afterwards discussed.

Sacrum.—The curve of the *sacrum* cannot be described on account of the way in which it has been artificially articulated, it seems to present nothing remarkable.

As above stated, none of the sacral spines are developed, the laminæ of the second sacral vertebra are the only ones which meet, those of the third sacral vertebra nearly meet, neither have fused, the others are widely apart, leaving the spinal canal quite open. The left hand lamina is superior to the right hand, and also superficial in both cases where

these approach one another; while in the lower lumbar vertebræ the right hand lamina appears lower than the left.

The left half of the sacrum is markedly narrower than the right in its whole length, but not shorter or shallower.

Breadth of right half of	1st	sacral vert.—	1½	in.....	Ditto, left—	1	in.
„	„	2nd	„	1¼ in.....*	„	¾	in.
„	„	3rd	„	1⅛ in.....	„	⅞	in.
„	„	4th	„	1 in.....	„	⅞	in.
„	„	5th	„	¾ in.....	„	½	in.

(* Measured to a faint line marking the synostosis.)

The left anterior and posterior foramina are much smaller and rounder than the right. The left hand transverse process of the first sacral vertebra is not only smaller than the right, but is bent backwards and upwards towards the transverse process of the last lumbar vertebra, which it approaches much more nearly than does that on the right.

Sacro-iliac joint.—The left sacro-iliac joint has obviously been the seat of an abscess which has (as above said) eroded the adjacent surfaces of the lateral mass of the first sacral vertebra and ilium, has produced synostosis of the second sacral vertebra and ilium, and has eroded the left free surface of the lateral mass of the third sacral vertebra, below which there are no signs of disease. The boundary between the sacrum and ilium is marked by a faint line.

Ossa innominata. Ilia.—The left ilium is somewhat more perpendicular than the right, but is not nearly vertical, it is decidedly the smaller especially horizontally; its posterior superior spine projects further backwards than the right. It is doubtful whether either posterior superior spine is the lower (posterior rotation round acetabular axis), but if either is the lower it is the right (unusual). The crest of the left ilium is thicker at its middle than the corresponding part of the right; when held up to the light the right ilium is more translucent than the left. The crest of the left ilium is more strongly curved than the right; the part of the left ilium forming the great sciatic notch shows a great contrast with regard to the left, being much more strongly curved, as will be seen by the following

measurements :—Diameter of iliac portion of great sciatic notch : right 1⅜ in., left 1 in. (compression of left side).

Seen from below, the right ilium is directed more transversely than the left.

Seen from the front this is also perceived, and the right venter ilii, which is larger than the left, looks more forwards and more upwards than the left. The part of the linea innominata formed by the left ilium is more strongly curved than the right, especially at its posterior part ; no excessive development of either anterior inferior spines can be seen (kyphosis) ; no difference can be seen in the size of the nutrient foramina of either ilium. From the front, the apparent backward displacement of the left ilium on the sacrum is seen to be due rather to a backward displacement of the part of the lateral mass of the first sacral vertebra not destroyed by disease than to a gliding of the ilium on the sacrum.

Pubes.—The horizontal ramus of the left pubic bone is longer than that of the right and but slightly curved, while the right as it approaches the symphysis pubis is somewhat sharply curved, the right horizontal pubic ramus is slightly but decidedly stouter than the left.

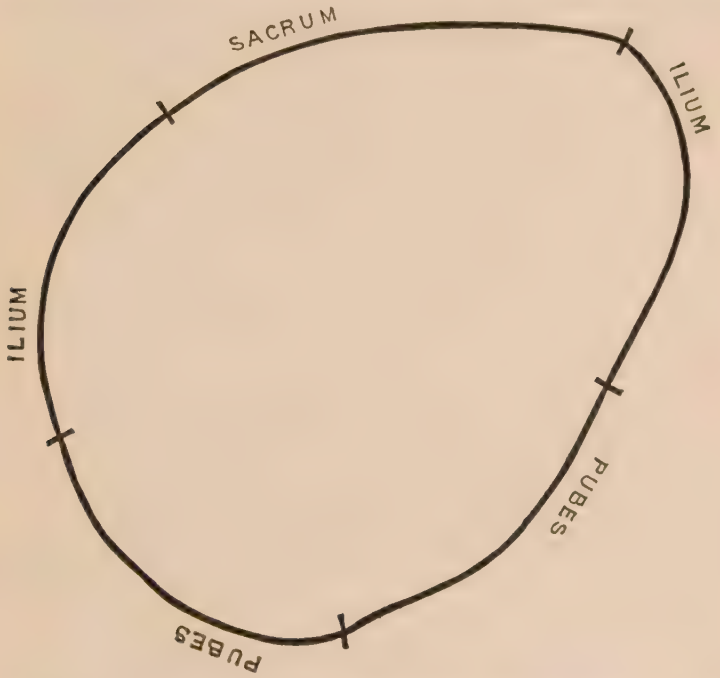
Seen from above, the right half of the symphysis pubis is anterior to the left. The descending ramus of the pubes and ascending ramus of the ischium on the left side are stouter than those on the right (vertical compression from left tuber ischii rather than atrophy).

Ischia.—The part of the left acetabulum formed by the ischium as compared with the right shows indentation, a slight but distinct bulging being seen on the inner surface.

Acetabula.—Both acetabula are denuded of cartilage as above described, but show no signs of disease.

Obturator foramina.—The left is very slightly shorter vertically than the right, and its lower border is less sharply curved than the right ; in other words, the right foramen is the more triangular, the left the rounder. The right tuber ischii is on a lower level than the left (all these points show vertical compression from left tuber ischi.

upwards), the left is almost certainly considerably inverted and the right probably slightly inverted, certainly not everted. As the bones are at present arranged, when seen from above, the spine of the left ischium is in the same vertical plane with the left border of the coccyx, and the right ischium also narrows the outlet considerably. Seen from below, the ischio-pubic, as well as the iliac portion of the right os innominatum, is distinctly anterior to the left.



The size and direction of the pubic angle can only be approximately ascertained, but seems very small, and directed if anything to the right side rather than the left.

Brim of pelvis.—No projection forwards of sacrum. Starting from the middle line, the linea innominata runs horizontally to the left and a little backwards till close upon the sacro-iliac joint, where a sudden curvature begins and

reaches its intensity at or about the sacro-iliac joint; from this point it gradually diminishes until, at the junction of the middle with the anterior third of the iliac portion of the linea innominata, the curvature ceases, as far as the middle of the left horizontal pubic ramus, but for a slight but decided inward bulging at the ilio-pubic synchondrosis that is opposite the left acetabulum; the inner half of the left horizontal pubic ramus is very slightly curved as far as the symphysis. Starting again from the middle line of the promontory of the sacrum the linea innominata runs transversely outwards until about an inch from the right sacro-iliac joint, where a slight, steadily increasing, uninterrupted curve runs to the symphysis pubis; the greatest intensity of the curve being near the symphysis pubis.

Symphysis pubis.—Markedly displaced to the right side, a line perpendicular to the anterior surface of the base of the sacrum cutting the left pubic bone half an inch to the left of the symphysis.

Lumbo-sacral angle (anterior).—There is no angle at the promontory, the lumbar and sacral vertebræ forming an unbroken S-shaped curve.

Summarised description.—This pelvis has suffered distortion while still immature, the causes of the distortion will be subsequently considered.

The changes themselves may be thus enumerated:

1. Caries of left sacro-iliac joint.
2. Ankylosis of second left sacral transverse process and adjacent part of ilium.
3. Dwarfing of whole of left half of sacrum.
4. Backward and upward bending of transverse process of first sacral vertebra.
5. Sinistral rotation of sacrum and with it of lumbar vertebræ.
6. Oblique contraction of pelvis in the direction of the left sacro-cotyloid diameter.
7. Expansion of pelvis in direction of right sacro-cotyloid diameter.

8. (Displacement of symphysis pubis to right).

9. Condensation of parts of brim formed by left ilium and right pubes.

10. Elongation of parts of brim formed by right ilium and left pubes.

11. Condensation and increased flexion of left ilium, these same points diminished in right ilium.

12. Backward displacement of left os innominatum.

13. Vertical compression of ischio-pubic division of left os innominatum.

14. Greater verticality of left ilium than right.

15. Absence of backward rotation of left os innominatum round acetabular axis.

16. Absence of absolute proof of eversion of right tuber ischii, and of right half of pubic arch.

Before proceeding to refer the above points of distortion to their several causes it will be well to discuss the question of the influence of the kyphosis on this pelvis. The exact pelvic inclination can now hardly be determined, but on balancing the pelvis and trunk on two fingers, supporting it by the acetabula, the anterior superior spines are seen to be on a plane slightly posterior to the spines of the pubes, and the pelvic inclination to be about 30° instead of about 60°. This estimation, however, is necessarily very rough and inexact, and a safer plan will be that of testing the point by searching for the existence of the well-known kyphotic points.

The influence of kyphosis is tested by the following points.—In a kyphotic pelvis:

1. The body weight acting on the lower limb of the kyphosis falls abnormally far back.

2. The upper part of the sacrum is rotated backwards, the lower part forwards.

3. The bodies of the upper sacral vertebræ retreat backwards from between their alæ, causing transverse concavity of the sacrum.

4. The anterior surface of the sacrum is straightened and drawn out from above downwards.

5. The pelvic inclination is diminished.

6. Increased traction on the ilio-femoral ligaments causes inversion of the ischio-pubic and eversion of the iliac portions of the ossa innominata; the venter ilii looks more horizontally upwards, the dist. sp. il. and cr. il. are increased; the S-shaped curve of the iliac crests is diminished, the posterior superior spines are approximated; the brim is narrowed transversely, widened antero-posteriorly.

7. The insertions of the ilio-femoral ligaments, namely, the anterior inferior spines and the upper borders of the acetabula, are strongly developed.

8. The tubera and spines of the ischia are approximated, and the pubic angle is narrowed.

9. Increased inward pressure on the acetabula causes approximation of the posterior parts of the horizontal pubic rami and projection of the symphysis.

10. The tubera ischii are driven backwards and inwards, and are rounded and slender; the ascending rami of the ischia are stouter and more everted.

To test our pelvis we will take these points in order:

(1) The direction of the action of the body weight cannot now be directly ascertained.

(2) There is no rotation of the sacrum.

(3) There is no transverse concavity of the sacrum.

(4) There does not appear to be any straightening or elongation of the anterior surface of the sacrum.

(5) The pelvic inclination may be diminished, but this cannot be proved.

(6 and 7) There is no special development of the points of insertion of the ilio-femoral ligaments; there may be some eversion of the iliac and inversion of ischio-pubic portions of both ossa innominata (rotation round an antero-posterior axis), though this point is obscured by the fact that the skeleton is that of a child, and has, therefore, undergone little lateral expansion of the true pelvis. Allowing for the age there is little if any diminution of the S-shaped curve of the iliac crests, especially of the left; there is certainly no approximation of the posterior superior

spines ; the brim shows quite a different shape to that characteristic of kyphosis.

(8) The tubera and spines of the ischia seem to be approximated and the pubic angle to be narrowed, but, as above remarked, the accuracy of the position of the ischio-pubic parts of the ossa innominata is a matter of great uncertainty, and again the non-expansion of the true pelvis in connection with immaturity must be remembered.

(9) There are signs of increased inward pressure on the acetabulum on the left side but none on the right.

(10) There is no evidence of backward displacement of the right tuber ischii, nor of eversion of the ascending rami of the ischia.

The detailed consideration of these points decidedly indicates the absence of any kyphotic influence, but a further consideration of the influence of kyphosis seems to finally eliminate this as a cause. The whole train of pelvic changes in kyphosis depends on backward displacement of the body weight, and this is indicated by backward traction and backward rotation of the upper part of the sacrum ; if these are absent the subsequent links of the chain need not be considered, and their absence in this pelvis enables us to regard it as independent of the influence of kyphosis.

Theoretical description of this pelvis.—The pelvis before us is that of a child, in which the changes at puberty had already slightly commenced, as is shown by the forward and downward advance of the sacrum between both ilia and a certain amount of lateral expansion of the pelvis on both sides. At this point the left sacro-iliac joint became inflamed, and the disease eventually resulted in synostosis of the left transverse process of the second sacral vertebra and the adjacent part of the left ilium. The growth, not only of the left side of the first and second vertebræ, but of the whole of the left side of the sacrum and coccyx, was dwarfed, an extent of influence which puts out of the question any such explanation as that of pressure. The mechanism of the left sacro-iliac joint became deranged:

The sacrum, unable to move forwards on the left, continued to do so on the right, and the sacrum and lumbar vertebræ came to look somewhat to the left; the body weight was no longer equally distributed and fell with increasing heaviness on the left side. The pressure in the left acetabulum increased, the acetabulum itself bulged inwards and probably drove inwards and backwards with it the left pubes and ischium. Increased pressure in the direction of the left sacro-cotyloid diameter narrowed the left half of the pelvis and drove the symphysis pubis to the right, also displacing the left half of the symphysis behind the right.

In an arch like the brim of the pelvis, compression by a weight will act in proportion to the coincidence of the direction of the pressure with the direction of the segments of that arch; in other words, the upward pressure acting in the direction of the left sacro-cotyloid diameter, and the counter-pressure of the body weight acting in the same direction, have actually compressed the parts of the brim formed by the *left ilium* and horizontal ramus of the *right pubes,* which are more or less parallel to the direction of this force; while the parts of the brim formed by the *right ilium* and horizontal ramus of the *left pubes,* being comparatively free from pressure in the direction of their long axes, are at least relatively lengthened. The reversal of the relative positions of the laminæ of the vertebræ, on passing from the lumbar to the sacral region, may indicate increased upward pressure on the left half of the sacrum.

The increased pressure in the left sacro-cotyloid diameter has resulted, as usual, not only in compression of the ilium on that side (left), but also (by the increased advantage with which the weight acts through the right sacro-iliac ligaments, in consequence of the nearer approach of the direction of their line of action on the right iliac beam to a right angle) in the disproportionate expansion of the right half of the pelvic brim. The results then so far are the usual ones of lateral flattening,

backward displacement, and relative verticality of left ilium on the one hand; and lateral expansion, relative anterior displacement, and relatively increased horizontality of the right ilium on the other. It must, however, here be noted that, compared with most Naegele pelves, the outline of the brim on the ankylosed side is less straight, and the ilium on the same side shows less posterior and upward displacement, and less verticality than usual, while there is absolutely no evidence of backward rotation of the left os innominatum round an acetabular axis. It is quite plain that the comparative smallness of the left os innominatum is due to compression rather than atrophy, and that the same cause is answerable for the vertical shortening of the left ischio-pubic segment, while pressure cannot be assigned as the cause of the dwarfing of the whole of the left half of the sacrum, especially as the lower part of the sacrum is not dwarfed in extreme scoliosis. The actual position of the spines and tubera of the ischia cannot be with certainty made out, but even if both were really inverted, this would be the usual condition on the left (ankylosed) side, while the condition on the right, if one of inversion, would bear out the view of the author as to the necessity of some considerable lateral expansion of the pelvis before eversion can take place:—

"A few words are required to explain the inversion of the tuber ischii of the affected (same) side in the pelvis of Naegele, and its eversion in the scoliotic pelvis. This eversion in the scoliotic pelvis is referred by Leopold to the action of the rotator muscles of the thigh, which pass from the tuber ischii to the great trochanter, and which act with greater force on the affected side from the fact of the weight falling on that leg, and the consequent higher position of the acetabulum. This explanation is ingenious, but has always seemed to me inadequate; and the comparison of these two pelves throws considerable doubt on it. Moreover, it could at most produce eversion of the tuber ischii, but could never produce

rotation of the whole innominate bone. Again, if the weight falls on the affected side in one pelvis, so does it in the other, and the result should be the same. It is, however, precisely the reverse. We must seek, then, for another explanation. It seems to me that the explanation is to be found by contemplating the pelvis not only during walking but also during sitting.

"In the scoliotic pelvis, which is usually (it must be remembered) also a flat pelvis, the action of the posterior ilio-lumbar and ilio-sacral ligaments has been in marked operation on the iliac beam, which has acquired unusual flexion at the point of least resistance, and the pelvis has become laterally expanded. This flexion can be well perceived by marking the angle (seen from below) formed by the iliac and ischio-pubic portions of the os innominatum. The tuber ischii is thus carried somewhat outward, and the acetabulum and tuber ischii, instead of being practically in a straight line with the sacro-iliac joint (from which the weight is transmitted), lie outside. The portion of bone intervening between the resistance below (tuber ischii or acetabulum) and the weight above (extremity of sacral ala and posterior superior spine) may be regarded as a rod of a length determined by the distance between two lines (one drawn in the direction of the action of the weight, and the other in that of the resistance) opposite the sacro-iliac joint. The result will be the production of that which is technically known as 'a couple of forces,' the action of which is to produce rotation. The os innominatum is thus rotated round an antero-posterior axis through the sacro-iliac joint; the tuber ischii is everted.

"It is evident that the more nearly the lines of pressure and weight coincide, the shorter is the rod, the less the rotation. In other words, the less the transverse pelvic diameter at the tubera ischii and acetabula the less the subsequent rotation of the os innominatum. The eversion is produced on one side only, because the weight falls on that side; the other tuber ischii, on the contrary, is inverted

from the traction of the great sacro-sciatic ligament, the tension of which is increased by the deviation of the sacrum to the opposite side, while the same ligament on the affected side is relaxed. The eversion of the tubera ischii, whether on one side or both, depends not on scoliosis primarily, but on flattening of the pelvis, and this on forward inclination of the body weight, usually marked by lumbar lordosis.

"In the pelvis of Naegele, ankylosis has prevented the operation of the iliac beam; the lateral expansion of the pelvis does not take place; the tuber ischii falls *within* the perpendicular of the weight of the body; the arm of the lever points *in*wards; rotation of the os innominatum and tuber ischii occurs *in*wards; the pelvic outlet of the same side is narrowed; but the sacro-iliac joint being destroyed, the inversion affects the tuber ischii only, rotation being impossible.

"In the ordinary rickety flat "Sitzbecken," both tubera ischii are everted. This view gains support by the contemplation of a child's pelvis, in which lateral expansion of the pelvis as a whole, and of the tubera ischii in particular, has not yet taken place. The usual dwarfings of the os innominatum of the affected side in the scoliotic pelvis would seem to show that the same dwarfing in the pelvis of Naegele is largely due to growth under abnormal pressure rather than to arrest of development as ordinarily understood.

"Scoliotic pelves occur in which the weight seems to have fallen first on one side and then on the other, the tuber ischii of the eventually overweighted side being inverted instead of everted. With regard to these it need only now be remarked that inversion of a certain degree will prevent the possibility of subsequent eversion even under reversed conditions, the lever having once pointed inwards. To procure eversion the lever must first be made to point outwards; the weight of the body will subsequently increase its length. That sitting has a considerable effect appears from the frequent dwarfing of the whole affected os innominatum even below the acetabulum.

This it would seem must be produced by pressure at the tuber ischii."*

The vertical compression of the left ischio-pubic segment would be due to sitting, the weight falling principally on the left tuber ischii.

The unusual characters of this pelvis, namely, the absence of extreme straightness in the outline of the brim on the left (ankylosed) side, the absence of backward rotation of the left os innominatum round an acetabular axis, the absence of great verticality of the left ilium, the absence of eversion of the right ischio-pubic segment, may be explained by the very probable supposition that the child died not long after the completion of the ankylosis. Had it lived longer, the bones forming the left half of the pelvic brim would have grown under pressure in the direction of the left sacro-cotyloid diameter, and would hardly have failed to present the usual outline; the body weight acting downwards, and the resistance of support acting upwards in the direction of the left sacro-cotyloid diameter would have probably displaced the left ilium as usual upwards and backwards, and rotated it backwards round the acetabular axis; while increasing expansion of the right half of the pelvis might, on the author's theory, have eventually resulted in eversion of the right tuber ischii.

Death probably cut the experiment short, and gave us this specimen of a half-developed, obliquely contracted pelvis of unilateral synostosis.

The pelvis is almost certainly not one of primary or very early ankylosis, and therefore not a typical pelvis of Naegele, the variations from which have been above described and explained. This makes the coincidences and variations the more instructive in discussing the causes of the production of the typical pelvis of Naegele.

The dwarfing of the sacrum above described requires a few additional remarks. This dwarfing is a character of the pelvis of Naegele, and is also seen on both sides in that

* 'Edin. Med. Journ.," September, 1880. "Comparison between the scoliotic and obliquely contracted (Naegele) pelves" (by the author).

of Robert, both of which pelves have sacro-iliac synostosis in common; while it is absent from the lower part of the sacrum in the pelvis of even extreme scoliosis.

It has been strongly urged that the primary defect in the pelvis of Naegele is congenital narrowness of one side of the sacrum. In the pelvis before us we see the same condition as the result of ankylosis almost certainly the consequence of inflammation, and not congenital or even early acquired; a fact which adds weight, so far as it goes, to the claims of ankylosis of the sacro-iliac joint as the primary factor in the deformity, over those of congenital ill-development of the sacrum. Although the pelvis of Naegele in its typical form is well known, its essential cause or causes have always been a matter of dispute especially on the question of ankylosis of the sacro-iliac joint. In discussing the whole question it must be remembered that there are obliquely contracted pelves which are not specimens of the pelvis of Naegele, at the head of which is the pelvis of lumbar scoliosis. Between a scoliotic pelvis and a typical pelvis of Naegele a comparison may be drawn including several well-marked divergencies ('Edin. Med. Journ.,' Sep., 1880); of these the most striking is that which refers to the shape of the brim. In the scoliotic pelvis the linea innominata usually begins with a strong curve posteriorly on the affected side while in the pelvis of Naegele it is almost straight. It can hardly be doubted that this difference is due to the presence or absence of ankylosis permitting the forward movement of the sacrum and consequent expansion of the brim in the case of scoliosis, and preventing both these operations by abolishing the sacro-iliac joint in the case of the pelvis of Naegele. The pelvis before us illustrates another effect of ankylosis, namely, the dwarfing of the whole of one side of the sacrum. Were this due to simple pressure we should undoubtedly find a similar extent of dwarfing in at least the more marked cases of scoliosis, but an examination of scoliotic pelves shows the effect of mere pressure not to extend below the parts compressed, and we must therefore conclude that the difference in effect

is due to a difference in cause, namely, to the presence or absence of ankylosis. It is easy to understand how ankylosis, by abolishing the sub-epiphysial layers of ossifying cartilage will stop the growth of bones, but it is not so easy to explain the extension of this effect to adjacent bones not actually involved in the process. The effects, however, are, as a matter of fact, different in the cases of pressure and ankylosis; and the explanation will probably be found in the study of the general effects of synostosis on the growth of bones.

The whole point of the controversy seems to centre round the question whether the pelvis of Naegele is the result simply of alteration of the relations of pressure, or whether ankylosis is essential for its production. This one condition of the alteration of pressure includes innumerable other conditions frequently detailed as causes of the production of the pelvis of Naegele. The two causes, for instance, set forth by Spiegelberg, namely, congenital narrowness of one of the sacral alæ and increased weight thrown on the same side of the pelvis are not two causes but one, since the first will inevitably lead to the second. Spiegelberg, indeed, asserts that the second will also lead to the first; this is no doubt true, but the study of the scoliotic pelvis shows us that pressure alone will be strictly limited in its effects to the region of pressure and that ankylosis rarely results even from great overloading of one side.

The cases related by Naegele ("Das schrägverengte Becken.," S. 54), of obliquely contracted pelves without ankylosis are open to the following remarks:—No. 1 (in his collection) is said to show the deformity only slightly; No. 2 (reported to him with few details) seems also not an extreme case; No. 3 (also not seen by him) is related also with few particulars. It is not unlikely that these are scoliotic pelves.

It is not denied that other causes (such as those selected by Spiegelberg) are sufficient to produce most of the characteristic deformities, but, if exactly the same deformities are found (other things being equal), whether ankylosis is or is not present, ankylosis can have no influence

in producing the pelvis of Naegele. If this is the case, the influence of the iliac beam as an essential factor in the normal development of the pelvis can also be eliminated; and this, considering the number of points which it alone satisfactorily explains, we are not prepared to do. Moreover, we do not believe that the results are the same whether ankylosis is present or not. It may be remarked with reference to the statements of Hohl (Path. des Beckens), that although he has shown the expansion of the pelvis to go hand in hand with the development of the sacral alæ, this need not prove more than that the preparation of the fulcrum of a lever is necessary for its action. This of course does not deny the influence of diminished nutrition on adjacent bones.

In the pelvis before us the possibility of ankylosis being a secondary result of overloading is practically out of the question, or at least, highly improbable in the absence of any of the known causes of overloading, such as hip-joint disease, scoliosis, &c., and in the presence of distinct evidence of inflammation of the sacro-iliac joint. An actual study of the so-called pelves of Naegele without sacro-iliac ankylosis would do much to contribute to a final solution of the difficulty; it would, for instance, show what are the differences if any in the lower part of the sacrum in cases of (1) supposed congenital smallness of one sacral ala; (2) dwarfing of the joint by chronic inflammation without ankylosis as in the case related by Spiegelberg ('Arch. f. Gyn.,' ii, 1871); and (3) ankylosis. In such a study one point to be looked for would be the evidence bearing on the date of ankylosis, principally furnished by the amount of forward movement of the sacrum on the ilium, as this cannot proceed subsequently to ankylosis. This point should always be looked to in any such study as that before us, inasmuch as the normal pelvic development may proceed naturally until deranged by ankylosis, and in the resulting pelvis the effects of antecedent normal development and of subsequent derangement by ankylosis must be carefully distinguished.

The cases related by Spiegelberg ('Arch. f. Gyn.,' ii, 1871, S. 145) bear out, so far as they go, the speculation above put forward, that the dwarfing produced by inflammation and that produced by ankylosis may be different.

In his case of ankylosis (S. 151) the lateral dwarfing is seen by the measures given, to have affected the whole of the side of the sacrum corresponding to the ankylosis; while in the case of inflammation without ankylosis this dwarfing is marked only in the part of the sacrum belonging to the sacro-iliac joint (S. 161), while the conditions opposite the 4th sacral foramina are actually reversed, the side of the inflammation being the broader.

Given the evidence of early if not congenital ankylosis on the one side, and of congenital smallness of one sacral ala without ankylosis on the other, it would then be necessary to compare these two pelves closely, especially with regard to the shape of the posterior part of the linea innominata in each. If it were found that original ill-development of the sacral ala led to a diminution but not to an abolition of lateral expansion, while primary or very early ankylosis absolutely prevented it, a very strong confirmation would be given to the view that ankylosis is essential for the production of a typical pelvis of Naegele. If the beam and lever explanation is correct (and the study of pelves increasingly confirms it), a small sacral ala will produce a small but none the less a real expansion, while ankylosis will entirely prevent any such expansion. The comparison of the scoliotic pelvis with the pelvis of Naegele before referred to, bears out this view and shows many resemblances due to common causes, together with one or two essential differences, due to different causes; and this should be remembered in the discussion of the causes of the pelvis of Naegele, which is something more than an obliquely contracted pelvis.

The difficulty of such a comparison as that above suggested would be great, and indeed, in the absence of the specimens (which are scattered over Europe), or their casts, impossible.

	In.	Cm.	Right.	In.	Cm.	Left.	In.	Cm.
Spinæ ilii ant. sup.	6¾	17·5	Right oblique diameter of inlet	2¾	7	Left oblique diameter of inlet	3⅝	9·2
Cristæ ilii	7¼	18·5	Dist. sacrocotyl. dextra at inlet	2¾	7	Dist. sacrocotyl. sinistra at inlet	1¾	4·5
Trochanteres (absent)	—	—	Spin. proc. of 5th lumb. vert. to sp. post. sup. dext.	1¼	3·2	Spin. proc. of 5th lumb. vert. to sp. post. sup. sinist.	1¼	3·2
Trans. diam. of brim	3¼	8·2	Spin. proc. of 5th lumb. vert. to sp. ant. sup. dext.	4⅝	11·8	Spin. proc. of 5th lumb. vert. to sp. ant. sup. sinist.	4⅜	11·2
*Tubera ischii ? (internal measurement)	1¾	4·5	Symph. pubis to sp. ant. sup. dext.	3¾	8·3	Symph. pubis to sp. ant. sup. sinist.	3½	9
*Spinæ ischii ? (broken)	1½	4	Symph. pubis to sp. post. sup. dext.	4½	11·5	Symph. pubis to sp. post. sup. sinist.	4¾	12
Conj. externa	4½	12	*Symph. pubis to tub. isch. dext.	3	7·5	*Symph. pubis to tub. isch. sinist.	2⅞	7·5
Conj. vera	3⅛	8	Symph. pubis to middle of crist. il. right	5	13	Symph. pubis to middle of crist. il. left	5½	14
Conj. diag. (D. B.)	3½	9	Sp. post. sup. dext. to sp. ant. sup. sinist.	5	13	Sp. post. sup. sinist. to sp. ant. sup. dext.	5¾	14·7
*Ant. post. of outlet	3¼	8·2	*Sp. post. sup. dext. to tub. isch. sinist.?	4	10	*Sp. post. sup. sinist. to tub. isch. dext.?	4½	11·5
*Pubic angle ?	20°	—	Sp. post. sup. dext. to arcus pubis	4¼	11	Sp. post. sup. sinist. to arcus pubis	4¾	12
Extreme width of sacrum in front	2⅝	6·8	*Sp. ant. sup. dext. to tub. isch. sinist.?	5¼	13·3	*Sp. ant. sup. sinist. to tub. isch. dext.?	5½	14
			*Sp. ant. sup. dext. to tub. isch. dext.?	4⅝	11·8	*Sp. ant. sup. sinist. to tub. isch. sinist.?	4⅜	11·2
			Sp. ant. sup. dext. to sp. post. sup. dext.	4	10	Sp. ant. sup. sinist. to sp. post. sup. sinist.	3⅞	9·8
			*Apex of sacrum to tub. isch dext. ?	2	5	*Apex of sacrum to tub. isch. sinist. ?	1½	4
			Breadth of right half of first sac. vert.	1⅝	4	Breadth of left half of first sac. vert.	1⅛	3
			Sacro-il. synch. to ilio-pubic junction, right (arc)	1⅞	4·8	Sacro-il. synch. to ilio-pubic junction, left (arc)	1¾	4·5
			Ilio-pubic junction to symph. pubis, right	1⅝	4	Ilio-pubic junction to symph. pubis, left	1¾	4·5
			Length of arc of right half of brim	5⅛	13	Length of arc of left half of brim	4¾	12
			Middle of promontory to sp. il. ant. sup. dext.	3⅞	9·8	Middle of promontory to sp. il. ant. sup. sinist.	3	7·6
			Middle of promontory to most distant part of cr. il. dext.	3⅞	9·8	Middle of promontory to most distant part of cr. il. sinist.	3¼	8·2
			From a perpendicular drawn from the prom. of sacrum to most distant part of brim, right	2¼	5·8	From a perpendicular drawn from the prom. of sacrum to most distant part of brim, left	1¼	3·2

* N.B.—The measurements marked with an asterisk are only approximate, owing to the mobility of the ischio-pubic on the iliac portions of the ossa innominata.

Mr. Griffith thought that the evidence of there having been destructive disease of the sacro-iliac joint during infancy insufficient, and regarded the synostosis, which was limited to that part of the joint formed by the second sacral vertebræ and the adjacent part of the ilium, as congenital. If this were the case, Dr. Champneys' theory of the causation of the deformity would require modification. Mr. Griffith also mentioned that there are three specimens of partial synostosis of sacro-iliac joints in the museum of St. Bartholomew's Hospital, but without deformity, in addition to the one referred to by Dr. Champneys which is a portion of a typical Naegele pelvis.

In answer to Mr. Griffith, Dr. Champneys said that the left sacro-iliac joint showed clear signs of disease sufficient, in his judgment, to account for the synostosis, in which case it was hardly logical to explain the ankylosis by a second cause. His point was that this was not a true Naegele pelvis in shape. The variations must have some explanation, and the variations he had set forth accounted for the facts. The pelvis was specially interesting as throwing light on the production of the true Naegele pelvis by the method of differences, and also as illustrating the effects of mechanical influences in modifying pelves generally.

CASE OF TRANSVERSE SEPTUM IN THE VAGINA.

By Henry Gervis, M.D.

The malformation present in the following case is, I think, sufficiently rare to be worthy of a brief record. M. B—, æt. 22, was admitted into St. Thomas's November 29th, 1881. She stated that she had always been considered delicate, but had never had any serious illness. She commenced to menstruate at fifteen, and with the exception of a stoppage of three months on one occasion had menstruated regularly since. The discharge had been rather free, but unattended with pain. In the intervals of the periods she had had a constant leucorrhœa. For the last month she had experienced great pain in micturition, and had noticed the water occasionally to contain

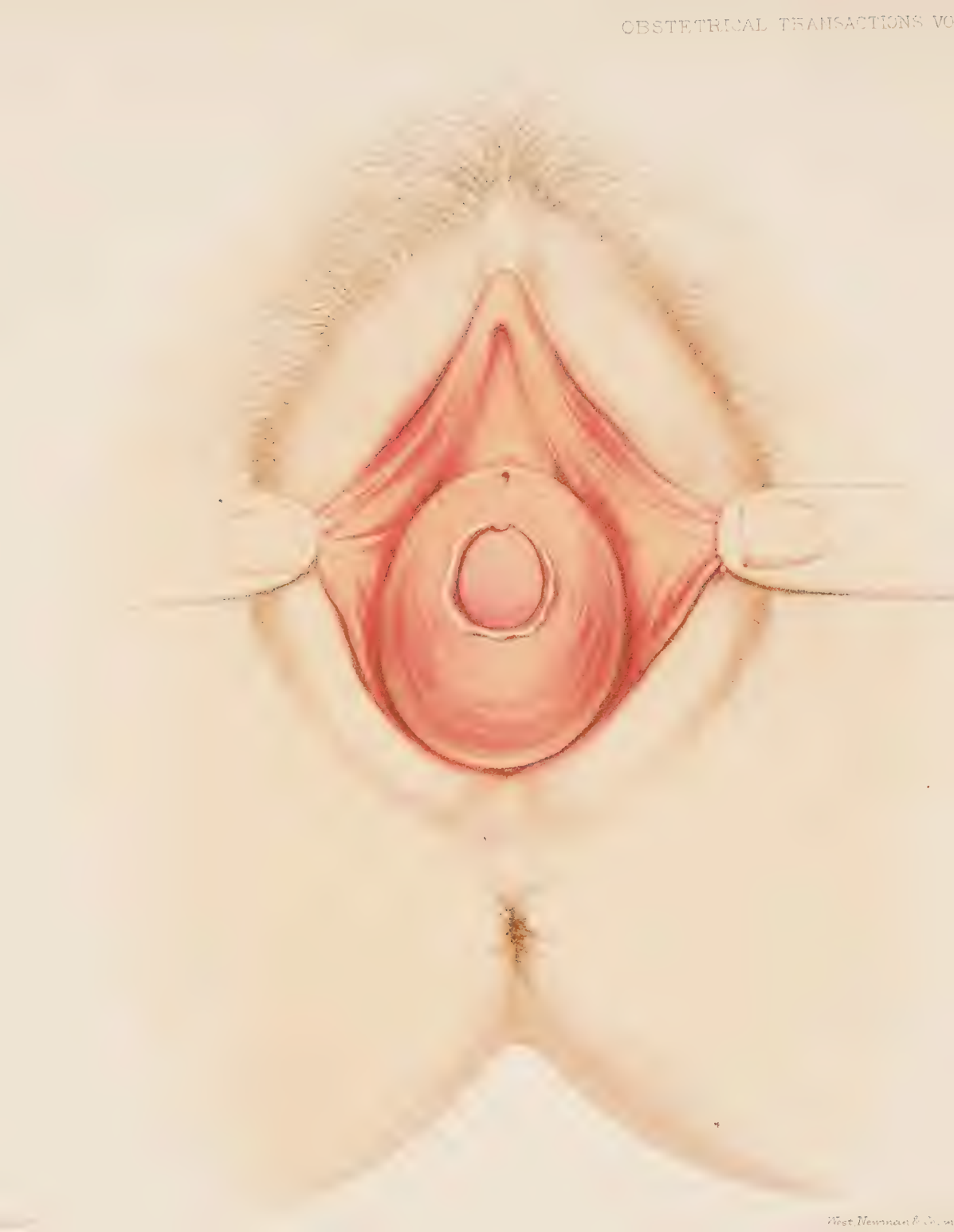
small clots of blood. It was for this she sought admission. The catamenia coming on almost directly after she came into the hospital examination had to be postponed for a week, but on December 8th the following particulars were ascertained. From the urethral orifice protruded a large and rather firm caruncular growth, about the size of a flattened hazel nut, with irregular outline, having extensive adhesions to the urethral lining membrane, and being extremely sensitive to the touch. On proceeding to make a vaginal examination it was found that the vagina ended apparently in a *cul de sac* at from one inch and a half to two inches from the entrance, and further that this *cul de sac* had on either side a pouch, which gave at first an impression that the case was one of double vagina. On further examination, however, there was found in the left cornu or pouch a small opening, through which a probe could be passed into a space beyond, at the summit of which rectal examination detected a uterus somewhat bulkier than normal. The septum itself was apparently about a line in thickness, and moderately extensile. At the entrance to the vagina was a fairly defined annular hymen. Evidently, therefore, this septum was not a misplaced hymen, and whether its origin were congenital or the result of early adhesive inflammation it was difficult to decide. The girl herself was quite unaware of anything being wrong with the uterine system beyond the persistence of a considerable leucorrhœa. On the 12th she was placed under ether, and I dissected out the caruncle from the urethra, subsequently applying the thermo-cautery to the bleeding surface. Then passing a probe through the small opening referred to as present in the left vaginal cornu I pressed the septum downwards and divided it upon the probe with the thermo-cautery flush with the vaginal wall on either side, and then further divided centrally the upper and lower segments. In the portion of the vagina above the septum was a largish quantity of brownish mucus which had apparently been more or less pent up there for some time. The uterus was found

somewhat hyperplasic and retroverted; the os surrounded by a collar of granular erosion. No hæmorrhage occurred in the operation. The vagina was syringed out with carbolised water and well plugged with strips of lint dipped in carbolised oil, and these were removed and replaced daily for about a week. Some slight rise of temperature followed the double operation for a couple of days, but it soon subsided, and in less than a fortnight both urethra and vagina were sound. The catarrhal endocervicitis also began immediately to improve when freed from the apposition of the secretions retained in the upper half of the vagina, and which evidently found but an imperfect outlet through the small foramen referred to. The advantage of the thermo-cautery in such a case as this, in both preventing hæmorrhage and lessening the risk of septic infection, is, I think, obvious. In a case of double vagina I reported to the Society some time ago I divided very satisfactorily the septum with the galvano-cautery, and quite recently I used the Paquelin in a case of imperforate hymen in which the membrane was so tough that there had collected behind it, in vagina and uterus, nearly two pints of the usual fluid. The recovery was without incident.

CASE OF SO-CALLED IMPERFORATE HYMEN.

By J. Matthews Duncan, M.D.

I am induced to relate the following case by three circumstances. First, the remarkable absence of any kind of suffering during nearly the whole time of the development of the disease; second, its illustrating the mode of treatment without any injections, which was a subject of some remarks at a recent meeting of this Society; and third, the condition of the pudendum, rendering the name 'imperforate hymen' erroneous and misleading.



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S. P—, æt. 21, single, invalid attendant, was admitted into St. Bartholomew's Hospital on March 7, 1882. She was in splendid good health and had the appearance of it and had no medical history. Urine 1020, acid, clear, no albumen ; temp. 98·8°, pulse 88.

She had never menstruated nor suffered any uneasiness connected with that function till about eight months ago. She was then told by a medical man that she had a lump in the lower belly ; and since then she had had irregular achings in the lower abdomen and lower back. These pains came on for about fourteen days of every month, but not regularly.

There is a tense swelling of the size and shape of half a large hen's egg, soft and giving the feeling of fluid, protruding between the separated labia majora. It is purplish-red in colour and has a nearly uniform surface. On its upper half and a quarter of an inch below the urethra there is a circular area, nearly of the extent of a shilling, mapped out by a projecting mucous fold, evidently hymeneal, somewhat larger posteriorly than anteriorly. Between its posterior margin and the fourchette is the developed fossa navicularis. In other respects the external organs are natural and healthy.

Since it was first observed the abdominal tumour is reported as having increased gradually. Now it is a rounded smooth elastic hard mass, whose upper margin is on a level with the navel, only slightly prominent, sensitive but not tender, not movable. On the right side near the navel, a nodule can be felt projecting from the general outline of the hardness, of the size and shape of the body of a virgin uterus. Per rectum, the distended vagina is felt filling the pelvic excavation almost completely and down to the floor of the cavity.

While the patient was under ether, in the lithotomy position, an incision about an inch and a half long, was made in the mesial line, backwards from the anterior margin of the hymeneal circle, by Paquelin's cautery knife. There immediately flowed 25 ounces of the retained men-

strual fluid. No hypogastric pressure or interference with its flow was permitted. A piece of carbolised oil lint was placed over the vulva and the patient removed to bed. The fluid was of the characteristic treacly or tarry consistence, greenish black in colour, and with only a faint faded odour.

In the course of the first day after the operation about 20 ozs. of retained fluid escaped and the last of it on the fifth day after the operation; in all above 50 ozs. At no time had it any fœtor.

The woman made an uninterrupted recovery, her pulse and temperature being at no time abnormal.

On the sixth day after the operation, there being now only slight mucous discharge from the vagina, the following state of the pudendum was noted. The vulva has a natural appearance everywhere, except that the fossa navicularis or post-hymeneal mucous membrane is still a little more extensive than natural. The structure described before the operation as hymeneal is now a natural fleshy hymen in appearance and position. The membrane enclosed by it and which was divided by the cautery, has almost entirely disappeared; its persistent margins, seen on separating the lateral hymen folds, being red and suppurating surfaces. The vaginal cavity is very large, the finger scarcely reaching the large, hard, and patulous cervix uteri. The vaginal walls feel as thick as the finger and nearly as hard.

On the 14th day after the operation copious menstruation began after a day of trifling pain in the lower abdomen. After a few days it ceased; and about a week afterwards she left the hospital, having directions to pass daily a large rectal bougie (No. 12) through the vaginal orifice, which had a tendency to contract, allowing only a finger to pass with some pressure.

There can be no doubt that, in this case, the great accumulation of menses, with corresponding dilatation of passages, took place slowly as usual, and without pain, which latter circumstance is worthy of remark on account

of its rarity. There was indeed pain, which she described as not severe, and as irregular in time or without defined periodicity, during the last eight months of the retention; but already, when it began, a tumour was felt in the hypogastrium; and the pain existed only after assurance from a medical man that she had disease.

The upper contour of the hypogastric swelling had its outline broken by a projection already described as felt to the right of the mesial line; and this mass, I believe, was the undilated uterine body, for it resembled it in size and its position accorded with the supposition; but the supposition was not verified.

It appears to me a possible, if not a probable explanation of the absence of pain, that the uterine body was not distended; for there are several facts in uterine pathology confirming the opinion that dilatation of the uterine body is more difficult and more painful than dilatation of the vagina and uterine cervix.

Regurgitation or retroflux of the retained fluid through a tube into the peritoneal cavity, just after free vent is given to it by opening the vagina, is a rare, and mechanically a curious, phenomenon, to which I do not now make further reference. This retroflux is of course a source of danger to life; but death, in such cases as the one here described, when it occurs, is generally the result of peritonitis or of septicæmia with or without peritonitis.

The risk of peritonitis I have always considered to be increased by the washing out, sometimes too violent, which is practised after the necessary incision opening the vagina has been made. In the operations which I have done I do not remember using the syringe in any way, and I am disposed to attribute the absence of signs of danger in my cases partly at least to this negative treatment.

The present case is the first in which I have made the incision by cautery-knife. It was possible, even in these thin structures to cut through layer by layer, and to make a large incision. It appears to me that this mode of oper-

ating is preferable to any other, as the cauterised wound is not an absorbing surface, and thus the danger of septicæmia may be diminished if not annulled.

I have called this a case of *so-called* imperforate hymen because such cases are generally thus designated, without the prefix *so-called*. But it is plain that the closure of the passage was otherwise effected, not by an imperforate condition of the hymen, for, (as the drawing illustrates), the hymen was entire and healthy, encircling a space which represented the vaginal orifice; and shortly after the operation, the parts had and now have the appearance of normal structures, the hymen having its ordinary position and relation.

I have, in other cases of retained menses made the same observation as to the hymen; and I have made it in cases where there was entire absence of uterus and vagina so far as could be determined during life, and in one case where a post-mortem examination verified their absence. I show here a drawing of one of these cases of absence of vagina and uterus in an adult healthy woman. The hymeneal fold is not (in the drawing) so distinctly seen as in some of the other cases where it was observed (when the labia were separated), to be circular on a flat mucous surface. In this case the hymen did not enclose a mucous area but was folded and had its parts adpressed to one another, and it will be observed that in this case there are similar little folds partially encircling the urethral orifice.

I am not able to say what light may be thrown on this subject by a study of the development of the parts implicated. But it is certain that, in many cases, the closure of the vagina, inferiorly, and when the closing membrane is thin, is not due to an imperforate condition of the hymen.

The presence of the hymen in the case here narrated, and its presence in cases of entire absence of vagina, seem to me to have a bearing upon M. Budin's* account of the

* 'Recherches sur l'hymen et l'orifice vaginal.' Par P. Budin (Progrès Médical), 1879, p. 11.

anatomy of this part. "Thus then, (says he), the hymen, as a proper, special, distinct, independent membrane, does not exist. The membrane which appears under the eyes, then, if we examine the genital organs, and which has been decorated with the name of hymen, is nothing else than the anterior extremity of the vagina, making a projection on the vulvar mucous membrane between the labia minora. It results from this arrangement that the definition of the vaginal orifice must be modified. We can, therefore, no longer say that 'the external circumference or circumference of insertion of the hymen constitutes the exact limit of the vagina, the terminal border of the vaginal orifice.' It is further forwards, at the level of the internal circumference of the hymen, that it is necessary to carry the orifice of the vagina. The orifice of the vagina is nothing else than the proper hymeneal orifice."

At first sight, at least, the anatomical facts mentioned in this paper are not consistent with the view of M. Budin here quoted.

Dr. Robert Barnes said that there was one form of toxæmia which was nearly always present in these cases, namely, the blood-poisoning from absorption of the decomposing hæmatoglobin in the retained fluids; this took place before the blood was evacuated. It had been overlooked until he described it. In the cases he had operated upon he had not used injections. They were not called for in all cases. Sometimes the uterus was distended as well as the vagina, and so a second pouch was formed in which the fluid could collect. He had collected all the fluid as it escaped, and found the quantity to be forty ounces. This he thought was about the average amount. It was not a very precise description to talk of "several pints."

Dr. Gervis was hardly prepared to accept Dr. Duncan's view that the membrane occupying the area within the hymen was vaginal wall. Nor could he think M. Budin's suggestion that the proper termination of the vagina was the free edge of the hymen a suggestion to be adopted without further observation and dissection. The varieties in the shape of the hymen and the general absence of muscular fibres between the mucous surfaces militated against it. In Dr. Duncan's operation, although washing out the vagina was not adopted, the use of Paquelin's knife rendered the cut surface non-absorbent, and asepticism was

further promoted by the carbolised lint with which the wound was dressed.

Dr. Carter had met with a similar case to that described by Dr. Gervis. A patient was admitted into the Hospital for Women under his care, a few months ago, with a transverse septum across the upper part of the vagina, about one inch from the introitus; the septum was thick and had a small opening at the anterior part only admitting a fine probe. She had been married some years and complained of a too prolonged menstrual flow, the blood passing away slowly for several days. The patient was placed in the lithotomy position and the septum well exposed by passing in a Sims' speculum; a probe was passed through the small opening and the septum was divided in three or four directions down to the vaginal wall: the septum was thick and consisted of two layers of mucous membrane with an intervening fibrous layer. A small quantity of coloured mucus escaped. After a few days the patient was again put under ether, as the opening was narrowing, and the remains of the septum were pared off the vaginal wall: as the uterus was retroverted a wedge was placed: the patient did well. Dr. Carter thought Dr. Duncan was to be congratulated on the favourable result in his case: he would consider washing out in such cases meddlesome unless called for by the discharge becoming offensive or other signs of commencing septicæmia appearing.

Dr. Rogers said he had had a very interesting case of retained menses in the early part of the year, the patient's age was twenty-three, she had never menstruated, and had been for years subject to periodical pains round her hips, abdomen, and down her thighs, but no discharge of any kind had taken place. Her abdomen had gradually enlarged. On examination there was felt externally a firm elastic tumour of a globular form that reached a little above the umbilicus. No vagina could be found nor sulcus between the orifice of urethra and rectum, through which the finger could feel a large elastic swelling in front, above, and behind the bladder as diagnosed by sound, it was decided to make if possible a vagina and open the uterine tumour through it. After a careful dissection between urethra and rectum for above two inches, the finger came upon a globular swelling evidently a distended uterus as large as a football. A trocar was passed and the canula left and tied so as to remain inside tumour from whence issued a constant, thick, tarry, prune-juice-like discharge; as it gradually flowed out the swelling lessened. This went on for about five days, over several pints were discharged, and the uterus gradually contracted so that it could not be felt above the pubis, then a brighter red loss commenced to flow for two or three days. This was followed by a yellow purulent discharge, when, for the first time, the uterus was carefully washed out with weak iodine and carbolic lotion. After operation tempe-

rature rose to 100°, and, as the result of some mental anxiety it rose to 103° a few days after, and remained for a time at 102°, then subsided. When injections were used the uterus had contracted to about normal size, great care was taken to keep the newly-made vagina from contracting, the patient wearing several hours in the day and again at night a large-sized bougie which she still continues to wear for a time every night. She is now in good health and menstruation regular. The vagina admits finger but is only about two inches long, the uterus being of normal size.

Dr. GALABIN thought it an important question whether, in evacuating retained menstrual fluid, it is desirable to use antiseptic injections immediately, after an interval, or not at all. It was the general experience that the danger was greater when the obstruction was high up, so that the body of the uterus or even the Fallopian tubes became distended earlier. It did not therefore follow that, because a method was successful when the septum was at the level of the hymen, it was safe when the obstruction was high in the vagina, or at the os uteri. He had known of two cases of high obstruction in which death had followed evacuation, where the fluid had been allowed to flow gradually, and no syringing had been used, at any rate till very grave symptoms had occurred. It would be remembered that Dr. Emmet strongly advocated the immediate syringing out with an antiseptic, and had published a considerable number of cases, all successful, which had been so treated, and in several of which the obstruction was high up. He had himself generally followed the plan of allowing the fluid to flow gradually and spontaneously for about twenty-four hours, for fear of exciting spasmodic contraction of the uterus, and beginning antiseptic injections after that interval. All his cases so treated had been successful. Perhaps it would be best if a perfectly aseptic condition could be preserved by any form of antiseptic dressing, without syringing.

The PRESIDENT said that Dohrn had entered elaborately on the developmental history of vaginal closures. What he (Dr. Duncan) wished to show was that cases, with blue, thin walled bulging between the labia, were generally and often erroneously called imperforate hymen, whereas in many, as also in cases where there was no vagina, a hymen could be distinctly seen. Sometimes it was expanded, or opened out, as in the case he had narrated; sometimes it had its parts adpressed one to another, as in a case of retained menses he had operated on since the one narrated, and as in the case of absent vagina where the drawing is shown. He had operated on a case of congenital retention when the closure was by an atresia of the middle of the length of the vagina, the external parts and lower end of vagina being natural. He did not think cicatricial closing could be

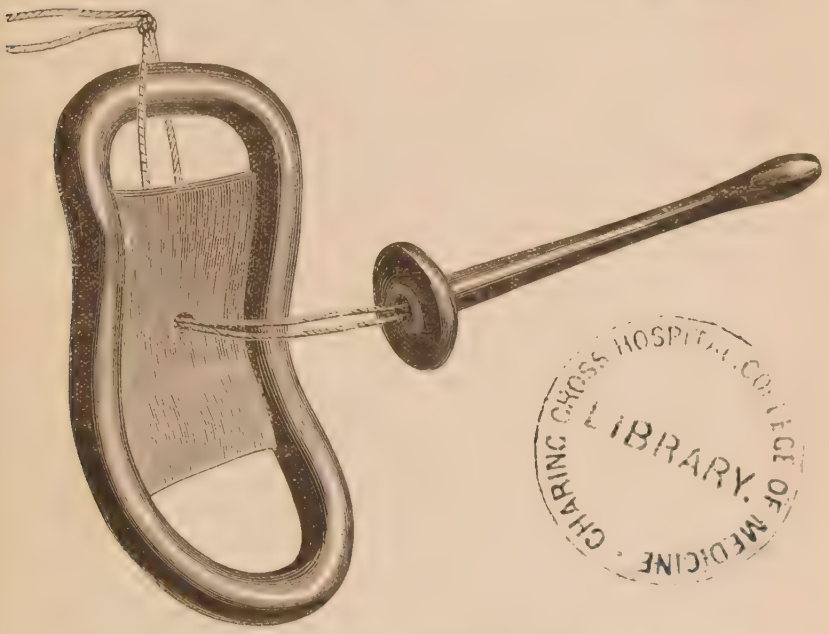
confused with the soft valve-like closure of a diaphragmatic septum, as in Gervis' case. In the case he had operated on since that recorded in his paper, there was absence of menstrual pains and the cautery operation was as successful as most.

ON A NEW FORM OF STEM PESSARY.

By Joseph Griffiths Swayne, M.D.,
CONSULTING PHYSICIAN-ACCOUCHEUR TO THE BRISTOL GENERAL HOSPITAL.

It is perhaps scarcely correct to call the instrument I am about to show a "new form of stem pessary," for if there is any novelty about it, it is not so much in the form, as in the mode of adapting and applying its component parts. The advantages I claim for it are that it is more easy to introduce and that it adapts itself more readily to the varying positions of the uterus than most other instruments of the same kind. It consists of two parts. First, a stem of vulcanite, of the ordinary shape, about two inches in length, slightly bulbous at the upper extremity, and terminating below in a disc with rounded edges about two thirds of an inch in breadth. The stem is traversed by a canal that will about admit an ordinary probe, and is slightly expanded at its upper extremity. Secondly, the pessary which supports the stem and which is a modification of Greenhalgh's, differing from this, however, in being incompressible anteriorly (in order to give the instrument more firmness), and in presenting a broad thick diaphragm of india rubber about an inch and a half wide which forms a sort of platform for the support of the bulbous disc at the lower extremity of the intra-uterine stem. The mode in which the two parts of the instrument are united together is as follows:—A long needle armed with a double thread of very strong waxed silk is passed through the stem from above downwards. The knot at the extremity of the thread, especially when coated with a little gutta percha, to too large to pass through the canal in the stem, but remains fixed at the

upper end which, as I said, is slightly expanded. The needle and thread are then passed through the centre of the india-rubber diaphragm of the pessary; the needle is then cut off, and one thread carried above and the other below the anterior part of the pessary, and then knotted together. The instrument is then ready for use. In order to introduce it, the patient should be placed either on the back or left side; the latter position will answer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well enough in all ordinary cases. The fore and middle fingers of the left hand should be passed up to the os uteri so as to guide the stem into it. The stem may be introduced either by Dr. Barnes's tent introducer or by an instrument (such as the one shown) which is more firm and inflexible. As soon as the stem is completely within the uterus, the introducer is removed and the stem retained *in sitû* by pressing with the extremities of the two fingers on the bulb at its base. The pessary is then

held between the fore and middle fingers of the right hand and gently slid up between the fingers of the left hand and the stem, until the latter rests on the india-rubber diaphragm. The threads are then drawn tight so as to connect the stem and pessary closely together, and when the pessary is quite in position are tied by a firm double knot over the anterior portion of the pessary, and then cut off tolerably close to the knot.*

This form of stem pessary I have found of great use, especially in cases of stenosis and anteflexion of the uterus, where the contraction and curvature of the uterine canal are so great that they cannot be remedied by the use of pessaries without an intra-uterine stem. I always, however, avoid the use of these stems, if possible, because they are often attended with some amount of risk. This, however, may be much diminished by attention to the following rules.

A stiff inflexible instrument is to be avoided. The uterus is an organ very movable and very liable to change its position within certain limits. This we can readily understand from the ease with which, during an ordinary examination, we can make the uterus swing backwards or forwards. On this account the stem pessaries first used by Sir J. Simpson and others were open to much objection. The stem was attached to an external inflexible support, and when applied kept the uterus perfectly immovable, and therefore liable to be injured by the strain during any unusual muscular exertion on the part of the patient. The use of these stem supports met with much opposition at first, and was compared to hanging the uterus like a hat on a peg, impalement, and so forth; and one or two fatal cases which resulted from the practice caused it for a time to fall into general disfavour. Of late years this objection has been obviated by not attaching the stem to any fixed support,

* It is always better to get an assistant to tie the knot; the medical practitioner in the mean time separating the labia, and keeping out of the way any hairs that otherwise might be included in it.

but by merely allowing it to rest on a flat pessary without being fastened to it; in the manner recommended by the late Dr. Bentley, of Dublin, who used to support the stem by means of a flat box-wood pessary. Others have preferred an ordinary Hodges pessary with a transverse web of india rubber; while others are contented with merely introducing a tampon of wool to support it. There is one objection to all these measures, and that is, that the stem is liable to deviate, especially in a lateral direction, so that its bulb will sometimes slip over the side of the supporting pessary, and the whole instrument will get out of gear and do more harm than good. To obviate this, some have recommended the use of a stem attached by a hinge joint to a cross bar fitted to a Hodge's pessary. But such instruments are open to the objection that they are very difficult to introduce, and do not admit of lateral movement. The pessary which I have shown is not, I think, open to any of these objections. As the stem is inserted separately, it is easy to introduce, and as it is only connected to the pessary by thread, it allows a certain degree of movement in every direction; and yet it is sufficiently united to it to keep in place. Another precaution that ought to be taken when we use stem pessaries is to take care that the stem is about a quarter of an inch shorter than the uterine cavity, and that the bulb at the base of it is too large to be received into the canal of the cervix uteri in case, as sometimes happens, that canal should become dilated by the presence of the stem. A neglect of this precaution may occasion very injurious pressure upon the fundus uteri from the extremity of the stem. Lastly in all these cases we should take care that the patient should be kept very quiet and under observation. It is, therefore, above all things necessary that she should not undertake long journeys, both because the exertion is too great and because her medical attendant loses sight of her. I was once called in to see a lady who died in consequence of a neglect of these two last precautions. She came down

here from Birmingham whilst wearing a stem pessary. She experienced a good deal of uterine pain for some time after her arrival, but did not consult any medical man. When she at last consented to do so, she was suffering from peritonitis, which proved fatal very shortly after I saw her. Besides pelvic and general peritonitis, the mucous membrane covering the fundus uteri was found at the post-mortem examination to be in a sloughy condition in consequence of pressure from the end of the stem. The occurrence of accidents such as these ought to show us that although the stem pessary is the most effectual means we know of for curing flexions and contractions of the uterine canal, it is nevertheless a remedy that ought not to be adopted, until all other means have failed, and then only under constant and careful medical supervision.

Dr. Heywood Smith asked what advantages Dr. Swayne claimed for his pessary over Dr. Wynn Williams's stem and shield, which was easier of introduction than Dr. Swayne's seemed to be, and which kept the uterus in a good position.

Dr. Edis, without wishing to appear the least discourteous, thought that such instruments as the one now shown were very dangerous unless employed by those thoroughly conversant with gynæcology. The *position* of the uterus was too often regarded as the only indication for treatment, whereas in many of the cases requiring interference the *condition* of the organ was really the chief consideration. In all cases of congestion or inflammatory mischief being present, where the uterus was flexed, depletion and other appropriate remedies should first be employed before thinking of introducing any intra-uterine stem, and even then it ought to be very carefully watched. Numbers of cases of pelvi-peritonitis occurred from the injudicious employment of stem pessaries, producing much suffering, and not infrequently terminating fatally.

Dr. Rogers did not think that the pessary exhibited by Dr. Swayne was in any way a more perfect instrument than Dr. W. Williams's, which can be easily introduced and well retained, and allowed perfect freedom of movement to the stem in utero. Dr. Rogers fully concurred in the rules laid down by Dr. Swayne for its use, and in those special cases in which he felt obliged to use it Dr. Rogers gave the strictest orders to have it removed should pain come on, which did not cease on injecting into rectum twenty-five or thirty minims of laudanum. Dr. Rogers

had been told by an eminent American gynæcologist only a few weeks back that he had become a convert to its use, and had seen great benefit follow its employment.

The PRESIDENT repeated, what he had said before to the Society, that meantime he used no kind of intra-uterine pessary. Dr. Swayne was much afraid of evil consequences from them, and used them as little as possible. He used them not at all. He had known many deaths from them, but he never knew of a case of version or flexion cured by them.

Dr. ROBERT BARNES could not absolutely condemn stem pessaries. Their use was necessary to cure some cases, as, for example, those of curvature of the cervix. He recalled the time when they were first introduced. Then certainly accidents arose, but now more scientific instruments had been contrived. He preferred that of Dr. Greenhalgh, and their use was coincident with more scientific modes of using them. He had cured cases of anteflexion with stem pessaries. It was not judicious to adhere to adverse opinions formed in the early and experimental stages of investigation. There were stem pessaries and stem pessaries, and he thought there was good in some of them.

Dr. HERMAN had known of a death following the use of one of Dr. Greenhalgh's india-rubber stem pessaries.

Dr. SWAYNE, in reply, said that the india-rubber band which supported the stem in the pessary he had just shown was more firm and unyielding, and therefore less liable to get out of order than that which supported the stem in Dr. Williams's pessary. Dr. Swayne had used the instrument many times in cases of acute flexion and stenosis, and always with good results. When, however, it gave rise to pain and elevation of temperature he made a point of at once removing it, and thus was able to avoid untoward accidents which had happened in cases that had not been carefully watched.

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NOVEMBER 1st, 1882.

J. Matthews Duncan, M.D., F.R.S. Edin., President, in the Chair.

Present—47 Fellows and 6 visitors.

Books were presented by Dr. F. Barnes, Dr. F. E. Beckwith, Dr. A. W. Edis, Dr. Graily Hewitt, Dr. F. Semeleder, and Mr. T. Spencer Wells.

The following gentlemen were elected Fellows:—Chas. Egerton Fitzgerald, M.D. (Folkestone); Joseph William Hunt, M.D.; Charles Egerton Jennings, L.R.C.P. Lond.; Joseph Francis Porter, M.D.; Thomas Wholey, L.S.A.

The following gentleman was proposed for election:—William Archdeckne Duncan, M.D.

INTERSTITIAL OR TUBO-UTERINE GESTATION. WITH NOTES ON SIMILAR CASES IN THE MUSEUMS OF LONDON HOSPITALS.

By Alban Doran.

This preparation consists of a uterus and its appendages, showing a cavity on the right side of the fundus, which has ruptured and discharged a fœtus and its membranes into the abdominal cavity.

A brief history of the case was published in the 'British

Medical Journal,' October 14th, 1882, by Mr. Carr Holstok Roberts, of Kilburn, who has presented the uterus to the museum of the Royal College of Surgeons. In that collection, which possesses a fine series of preparations illustrating tubal gestation, this specimen is, at present, unique.

The patient was a tall and stout married woman, aged 32. Her two only children had been born at the full period, the youngest was fourteen months old, and had been weaned about two months; she had neither menstruated during lactation, nor seen a period since the weaning of her last child. At 10·30 p.m. on October 1st, 1882, she was seized with severe abdominal pains when in bed. Her husband gave her brandy, but without any good effect, he then sent for Mr. Roberts, who found that her abdomen was neither swollen nor tender, although she complained of severe pain. The patient was also suffering from sickness and slight diarrhœa, caused, according to her belief, by some strong pills. The vomit consisted of half digested food and the motions were such as would be produced by a purgative. The patient's skin was cool and moist, her pulse good, and her respiration and temperature both normal. Sedatives, hot fomentations and linseed poultices to the abdomen were ordered, but at 8 a.m. on October 2nd, Mr. Roberts, when sent for, found her in a state of collapse; she remained perfectly conscious until 10.30 a.m. when she expired.

When the patient's body was examined after death no external marks of violence were found, the abdominal cavity was filled with nearly six pounds of clot, and five pints of a bloody fluid. Floating in this fluid was a fœtus, at about the second month of development, enveloped in its membranes. It measured one inch and a half in length. At the upper part of the uterus a rupture was detected, large enough to admit three fingers. The thoracic and abdominal viscera were normal excepting the heart, which was very flabby and its chambers perfectly empty.

I have since dissected and prepared the uterus. The greater part of its posterior wall has been removed to

show more perfectly the relations of the cyst. The uterus is five inches long, from the fundus to the os externum and appears very unsymmetrical, on account of the bulging of the cyst at its right upper corner. The walls are, posteriorly, from a fifth to a quarter of an inch thick, and the cavity is lined with a well-formed decidua.

The right side of the fundus is dilated, and rent asunder by a long ragged aperture, measuring two and a half inches when unstretched. The cavity thus exposed measures one inch and a half vertically, supposing the edges of the rent to be closed, and one inch antero-posteriorly. The walls are very thin along the line of laceration.

Anteriorly, the right round ligament springs from the outer aspect of the exposed cystic cavity which bulges freely, at its lower aspect, into the upper part of the interior of the uterus, at this part its walls are much thicker than above. The inner wall of the cyst, as we may term it, is very rough, resembling, to a certain extent, an auricular appendix. From some of its numerous pits or depressions hang broken-off tags of chorion, but there is not a trace of a distinct decidua.

The right Fallopian tube passes into the outer and anterior aspect of the walls of the cyst, expanding slightly into a funnel-shaped orifice, which opens into the cavity of the cyst, close to the rent in its walls. A stout bristle, introduced into the tube from without, passes readily into the cavity through the funnel-shaped orifice, which is lined with very smooth mucous membrane. On the outer surface of the portion of the cyst that projects into the uterine cavity is another funnel-shaped aperture with a smooth lining. A bristle has been passed from without, through this opening, into the cavity of the cyst without meeting with the slightest obstruction.* This sufficiently proves the tubal origin of the cyst, there being no evidence of rupture of the wall of the uterus out of the line of the tube, as it runs through uterine tissue into the uterine

* This patulous condition of what represents the uterine orifice of the tube has been already observed in similar cases by Peppell, as quoted by Parry.

cavity. Still less is there any ground for believing in a partially bicornute condition of the uterus.

The right ovary measures $1\frac{1}{10}$th inch in length, it is flattened and four follicles are dilated to a maximum of $\frac{1}{12}$th inch diameter. It contains a true corpus luteum of triangular form, $\frac{2}{3}$ths of an inch in its widest measurement, lying far from the free border of the ovary towards the hilum, having ruptured on one side of the ovary. The left ovary is half an inch in its longest diameter and contains no palpably dilated follicles, the left tube presents no abnormality.

The two sketches which accompany this paper are taken from drawings made by Mr. Sherwin. The first represents the relations of the cyst to the uterine cavity, the second shows the interior of the cyst and the rent in its walls. Before entering into general considerations, it will be advisable to compare this specimen with others that, existing in the metropolis may be conveniently compared with Mr. Roberts' case by members of our Society.

I could find no specimens of interstitial or tubo-uterine pregnancy in the museums of St. Bartholomew's, St. George's, St. Mary's, Westminster, St. Thomas's, Middlesex, and Charing-Cross Hospitals, nor in the museum of King's College, or in the collection preserved at the Hospital for Women, Soho Square.

In the museums of three medical schools, only, do such specimens exist and I have examined them all, in order to compare them with Mr. Roberts' case. The following brief notes may prove acceptable for convenience of reference.

Guy's Hospital, No. 2517[65].—"The ovum was imbedded in the left horn of the uterus. The cavity is about the size of a horse-chestnut and is quite closed. The uterus is much increased in size, the cavity is filled by an exuberant growth of deciduous membrane closing the Fallopian tubes." Death from rupture occurred at about the second month, the case is recorded in 'Guy's Hospital Reports,' series ii, vol. iii, p. 272. The cyst is of precisely

Fig. 1.

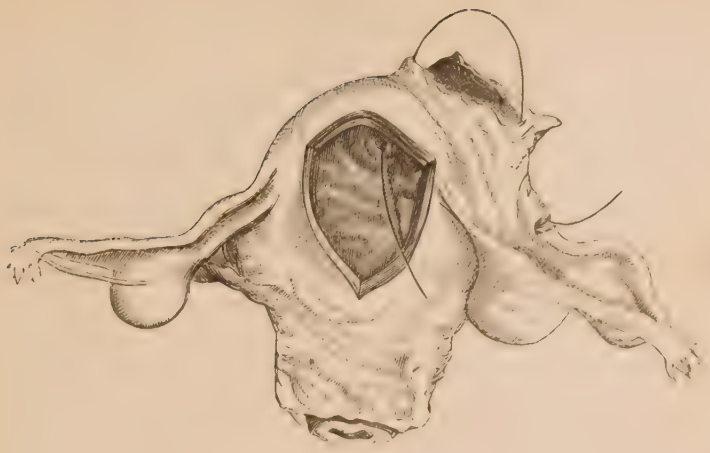
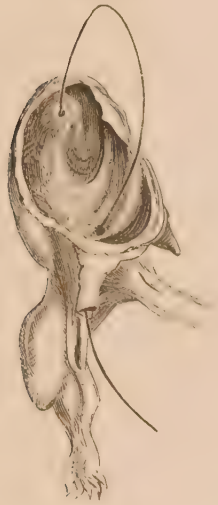


Fig. 2.



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Mr. C. Holstok Roberts' Case of Tubo-uterine Gestation. (Mr. Doran's paper.)

Fig. 1.—View of the uterus and its appendages, posteriorly: the greater part of the posterior wall of the uterus has been removed by dissection. The rent in the cyst is seen at the right of the fundus; the lower part of the cyst projects into the uterine cavity. A bristle has been introduced into this projecting portion through an orifice representing the uterine orifice of the tube, and passed through the cavity of the cyst into the tube, which has been divided artificially in its middle third.

Fig. 2.—View of the cavity of the cyst, seen from the right, showing the course of the bristle through its uterine and tubal outlets. The right round ligament of the uterus projects from the lower part of the cyst.

the same character as in Mr. Roberts' case, but of not half the capacity. The Fallopian tube runs into its outer wall. No communication of the cavity with the interior of the uterus is indicated.

No. 2517[90]. "At the fundus" of the uterus "is a large cyst, formed within its walls, in this the fœtus," which is over four inches in length, "was contained, at its upper part a rent was seen. The cavity is about three inches in diameter and is situated in the uterine walls adjoining the left Fallopian tube." The uterus is lined with a decidua, as in the last specimen; a corpus luteum exists in the corresponding ovary; the case is recorded in 'Guy's Hospital Reports,' series iii, vol. vi. p. 275. This is a beautiful specimen, the cyst is clearly continuous with the tube, and bulges into the uterine cavity as in Mr. Roberts' case which, in degree of development, as indicated by the clinical history and the size of the cyst, lies midway between the two specimens in Guy's Hospital.

London Hospital.—The two examples in the museum of that institution are immortalised in the late Dr. Ramsbotham's 'Principles and Practice of Obstetric Medicine and Surgery.' Unfortunately, neither specimens show the relations of the tubes, uterus and cyst intelligibly. In E*h* 24 "the bones of a fœtus, probably near full time, are seen lodged in a sac behind the uterus, they are as clean as if macerated." "A portion of one of the long bones," says Dr. Ramsbotham, "protruded from the cyst into the cavity of the colon." The further account of the dissection, in that author's work, not quoted in the catalogue, leaves little doubt that the cyst which "occupied the right side of the uterine walls" is truly tubo-uterine. Had the cyst been in the free part of the tube, no matting together of the parts, by adhesions, could have forced it into the uterine walls, but it is unfortunate that the relations of the right Fallopian tube cannot be seen. The specimen might, however, be an example of a hernial pouch in the uterus, such as Dr. Roper has described; to this question I shall presently return.

Eh 105 is "a shrivelled fœtus of about four months which has escaped through a laceration in the uterine wall, in a case of parietal gestation." The cyst and uterus are included in the specimen. Dr. Ramsbotham most truly observes that the preparation does not display the peculiarities of the case well "having been taken from the body hurriedly and at great disadvantage." By the courtesy of Dr. F. C. Turner I have been enabled to examine this specimen very closely. The lower part of the cervix with the os externum has been cut away, the uterus has been laid open from the fundus to close above the cervix. The cyst has been completely severed from the uterus and sewn on to it by threads passed through their serous lining only. It has no aperture excepting the rent through which the fœtus escaped, but, on close scrutiny, the edges of the lower part of this aperture are found to be uterine tissue cut artificially in dissection. Moreover, the tube and the ovarian ligament proceed from the outer aspect of the cyst precisely as from a uterus; the ligament of the ovary never springs from a true tubal cyst in this manner. The whole aspect of the cyst, from outside, is like the uterus from which it has been severed, and its walls are of pure uterine tissue. Dr. Ramsbotham's description of the dissection leaves little doubt of the true nature of the specimen, the cyst was "formed within the walls of the uterus" and "one tube was attached to the cyst." The same author figures Breschet's case which bears all the appearance of being tubo-uterine.

The museum of *University College* possesses one specimen (3543) labelled "A case of extra-uterine fœtation in the substance of the uterus,* close to the end of the Fallopian tube. Rupture of the ovum at seventh week, hæmorrhage and death in twenty-four hours." The manuscript catalogue describes the specimen as having been taken

* Dr. Barnes would be thoroughly justified in the use of his term "ectopic gestation" in such a case as this, where the older term reads as an absurdity (see 'Trans. Obst. Soc.,' vol. xxiii, p. 94), but space prevents me from entering into questions of synonyms.

from the body of a young woman, and the rupture of the cyst was clearly caused by violent exercise. This specimen is well prepared, the cyst is not half an inch in diameter, being smaller than in the specimen 2517[65] at Guy's Hospital. There can be no doubt that the cyst is here a dilatation of the part of the tube that passes through the uterine walls, a bristle has been introduced through the tube into the uterus and it traverses the cyst, concealed by the chorion which lines the inner aspect of that abnormal cavity. The uterus possesses a decidua.

Thus, including the preparation from Mr. Roberts' case there appear to be six examples of so-called interstitial fœtation mounted as pathological specimens in London museums. It is most significant that, in all the four where the condition of the affected parts has been intelligibly displayed, the tubal origin of the "interstitial cyst" is self evident.

These notes are intended to be strictly pathological, still they suggest certain obstetrical considerations. "Interstitial" or tubo-uterine pregnancy is a rare accident, as our London museums prove, for practitioners are never backward in presenting to such collections specimens of extra-uterine gestation, and the numerical richness of a series is facilitated by the fact that sudden death is so frequent an ending of this abnormality of gestation that a necropsy is generally allowed, or even enforced by a coroner. Hence we see a goodly array of the more frequent tubal form in almost every museum; since 1877 I have dissected and mounted no less than four, for the museum of the Royal College of Surgeons alone. The records of our Society's 'Transactions' teem with cases of tubal gestation. Yet notwithstanding the publicity thus given to extra-uterine fœtation, only six specimens of the tubo-uterine form can be found in the metropolis. In Parry's standard work, 31 cases of this variety are included in a table of 500 cases of extra-uterine pregnancy; but in that table 230 cases are set down as "doubtful." This ambiguous series, however, must have been mostly made up of cases that were chiefly doubtful

as to their originally tubal or "abdominal" character; cases of hopeless matting together of pelvic structures so common in all such disorders when of long standing; but intestitial fœtation is less likely to be overlooked and classified among these 230 doubtful cases.

In fact it seldom reaches the stage at which it becomes "doubtful" to a dissector. Interstitial pregnancy generally ends in a "fœtal cataclysm," as Dr. Barnes would say, at the second or third month, as in Mr. Roberts' case; hence there is no time for pelvic peritonitis, burying the ovaries in adhesions and contorting the tubes in every possible direction.

This tendency to early rupture of the cyst involves, of necessity, great difficulties in diagnosis, which is practically impossible during the first few weeks.* In these days of abdominal surgery a rescue of a case like that of Mr. Roberts, by a very experienced operator may yet be recorded; but the very circumstances under which this accident must occur will seldom bring the patient within timely reach of a surgeon who can manage complicated cases of ovarian and uterine tumours. A purely tubal cyst, even at this early stage, certainly bleeds less rapidly, moreover diagnosis is not so difficult; on the other hand, the soft swelling on the right of the uterus in Mr. Rogers' case could hardly have been detected on palpation, although abdominal section would have revealed its true character. Then, amputation of the uterus above the cervix would have been the sole practicable course.

The tendency to early rupture is clearly due to the thinness of the cyst towards its upper or peritoneal aspect. The lower portion of its walls tend rather to grow thicker, and, supposing that the upper part does not rupture, pregnancy may continue till term. Rokitansky has described such a case, quoted in several works by

* Dr. Gibbes, of South Carolina, distinguished a tumour in a case of tubo-uterine pregnancy, which he took for a fibro-myoma, and De la Faille correctly diagnosed a case from the intense pain caused by pressure on the uterus.—(See Parry, 'Extra-Uterine Pregnancy.')

contemporary writers. I can well understand how the fœtus might be born into the uterine cavity, after expulsion from the sac, and then directly, or after an interval, delivered from the uterus "into this breathing world" in the usual manner. Dr. Mundé describes a case* where he fully believes that such a phenomenon occurred; the patient recovered, so that the precise condition of the parts could never be ascertained.

The cases of suspected hernial embryo-bearing pouches of the uterus, well known to Fellows of the Society, may, in many instances, have been really tubo-uterine cysts, and there is every reason to believe that the former uterine orifice of the tube, in the part of the cyst that projects into the uterine cavity, might become dilated, from various causes, so as to admit a sound or even the forefinger. This orifice might dilate, in the delivery of the fœtus into the uterus, as the os externum dilates in natural labour, but it is more probable that it would be rapidly rent asunder. In the discussion on Dr. Barnes' paper on the so-called "Missed Labour," Mr. Spencer Wells and Dr. Gervis suggested the possibility of some missed labour cases being instances of tubo-uterine pregnancy.† But the cases quoted in support of this theory were theoretical, in so far as they all recovered, as did Dr. Mundé's patient; besides, the tubo-uterine nature of the pregnancy was based on the fact that the sound had been previously passed into an (apparently) empty uterus, without producing abortion; but this accident does not always follow the introduction of a sound into a normally gravid uterus. On the other hand, Dr. Roper's cases, mentioned by him in the same discussion, appear to have been verified by dissection; that obstetrician believes in hernial pouching of the gravid uterus through rupture of a part of its inner wall.‡ Should his cases have really been

* 'American Journ. Obstet.,' 1879, p. 330. The same remark applies to Dr. Lenox Hodge's case, just published in Parry's work.

† 'Trans. Obst. Soc.,' vol. xxiii, p. 100.

‡ Since this paper was read, a "Case of Intra-mural Pregnancy Resulting

correctly interpreted in this fashion, I am inclined to rank among them the specimen E/ 24, in the London Hospital Museum. Still, I suspect that some such cases were tubo-uterine cysts. When developed to a very great size their relation to the Fallopian tube might become confused and constitute a source of fallacy. As to pregnancy in one horn of a double uterus, it has so clearly nothing to do with the specimen I exhibit this evening, that it is unnecessary for me to discuss that subject.

The cause of the arrest of the ovum in the uterine part of the Fallopian tube is not, in Mr. Roberts' case, self-evident. The cavity bearing the fœtus appears to be a pure dilatation of the tube; as in most similar cases, there is no evidence that the muscular structure of the uterus itself has been ruptured; hence the unsatisfactory character of the term "interstitial." Such a rupture would, if it could be proved by dissection, have occurred from some uncertain cause, before the arrest of the ovum, for a very young ovum could hardly burst the tube, whilst, were the tube ruptured in its uterine part already, we can understand how an ovum might be forced into the uterine tissue, instead of into the uterine cavity. The uterine orifice of the tube, that is to say, in this case, the aperture in the lower part of the cyst, is quite patulous, and there are no traces of any polypi obstructing it, as in cases related by Beck, Breslau, and Leopold.* Yet, although the uterine orifice of the tube was unobstructed at the date of the patient's death, it might very possibly have been obstructed by catarrhal swelling of the mucous membrane some eight weeks earlier, and this would have been sufficient to arrest the ovum. On the other hand, a dilatation or tortuous condition of the

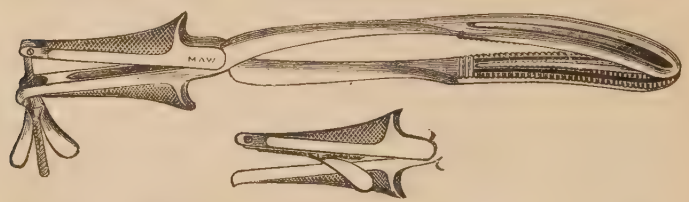
in Missed Labour" has been contributed to the 'British Medical Journal,' (November 18th, 1882) by Mr. C. E. Steel, of Liverpool. In this case "the Fallopian tubes were normal, and opened into the uterus separately from the sac." Thus there can be little doubt of the nature of the sac, which could not possibly have been tubo-uterine.

* "Zur Lehre von der Graviditas Interstitialis," 'Archiv. für Gynæko-ogie,' vol. xiii, heft 3.

uterine part of the tube might have existed before conception, and if so, it is easy to understand how the ovum was arrested in it; Leopold discovered an abnormal and crooked condition of this part of a left tube, in a case where the corresponding portion of the right tube held a fœtus. I believe that the truth lies between these two explanations, but that the second is more probable than the first.

NEW CEPHALOTRIBE.

Mr. C. E. Jennings showed a new cephalotribe and said —The varieties of cephalotribes are so very numerous, that it is perhaps impossible to display any true originality in the production of a fresh one. It it also perhaps impossible to produce an instrument which being an efficient crusher is also a good tractor, capable of ready application to the fœtal head, and will not slip off when so applied; an instrument that occupies but little room in the contracted pelvis, is sufficiently light not to weary the



operator's hands, at the same time well-balanced enough for him to manipulate the screw with ease, and withal fairly portable.

The instrument, which I submit to your notice, made for me by Maw and Co, so far as my experience with it enables me to state, fulfils most of the conditions.

Its extreme length is 16½ in.; the length from lock to tip 11 in.; the greatest width between the closed blades 1½ in. (if very tightly screwed down another ¼ in. can be

gained in this diameter,) each blade measures 1½ in. across, and is fenestrated,—the fenestra being ¼ in. wide and 5 in. in length. This portion of the blade is deeply grooved longitudinally and dentated transversely on its inner surface; the tip meeting its fellow at an angle of 30°, there being no abrupt incurvation at this extremity, the instrument can be applied to the fœtal head with much facility. The pelvic curve is slight, and occupies the fenestrated part only. When laid on the table, the tip of the blades are elevated 2½ in. above the level surface, whence the amount of pelvic curvature can be inferred. The handles are provided with projecting shoulders as a means of affording power of traction. The compressing screw works on a hinge in such a manner that, when not in use it can be folded within the handle fluted for its reception.

Too much importance cannot be attached to the value of a screw adapted in this manner: it is most embarrassing to an operator (especially if unassisted) should he wish to readjust the cephalotribe, to be compelled to detach and afterwards re-apply the "third piece" in the shape of a screw, which belongs to most of the cephalotribes in vogue, and which when slippery do very readily drop from the obstetrician's hand to the floor, to his no small annoyance.

HERMAPHRODITE.

Dr. Chalmers showed the genito-urinary organs of a hermaphrodite. The child was born at full term and died when three weeks old. The external parts were those of a female to which was superadded an enlarged clitoris, about half an inch in length, which with glans and retracted prepuce resembled a well-formed penis. On the under surface of this penis, from its tip to its base ran a channel resembling an incomplete urethra. Internally the ovaries were present, the uterus and bladder opened

into a common cloaca and the round ligaments passed forward in the usual way.

He also showed a piece of umbilical cord presenting close to the navel a sudden narrowing and twisting. The child was born dead, and the cord was exhibited with the view of getting the opinion of the Fellows as to what share the constriction had in causing the death of the child through stopping the blood supply.

Mr. Doran asked Dr. Chalmers if the clitoris, in this specimen was perforated by the urethra, as in the penis. It is remarkable that only among the lemurs do we find this condition to be normal in the female in the entire group, though it recurs in a few species of mammals.

Dr. Chalmers replied that the clitoris was grooved below, but not completely channeled for the passage of urine.

Mr. Doran observed that this condition was also normal in some of the higher mammalia; both the grooved and the completely channeled clitoris is observed as a specific distinction amongst the hyænas and allied carnivora. Functionally, it is of no importance whether the urine be voided through or behind the clitoris, but from a morphological point of view the subject is of great interest.

Dr. Fancourt Barnes informed the Fellows of the Society that the hermaphrodite he exhibited at the last meeting had since died and had been found on examination to possess a normal uterus and ovaries, although neither he nor Dr. Champneys could detect any uterus by rectal examination during life.

EXTROVERSION OF THE BLADDER.

Dr. Champneys showed a specimen of the urinary and generative organs together with the pelvis, of a child which died a few days after birth.

The case is described at length and figured in 'St. Barth. Hosp. Rep.' vol. xii. 1877, p. 81. The specimen is from that Museum. The main condition is that of extroversion of the bladder with the usual fissure of the pelvis

and external genital organs which might be of either sex. The uterus was discovered by recto-abdominal palpation.

The region of the external genitals presents above two orifices of the ureters, below them two duct-like openings without any appearance of hymen, below them a large blind pit or depression.

The duct-like openings led into a single vagina. Similar appearances have been observed by the author in other deformities of the female generative organs, and suggest the persistence of embryonic ducts, those of Müller or perhaps those of Gaertner. The blind fossa posteriorly may represent the orifice of the vagina.

The deformity is comparatively rare in female children.

TUMOUR OF THE PLACENTA.

Dr. Galabin showed for Dr. J. C. Roberts a placenta in which was embedded what appeared to be a tumour. It was a fleshy mass about the size and shape of an adult human heart. It was contained in a capsule and was everywhere smooth on the surface, except at a few points where it appeared to have been in continuity with the chorionic villi, the chief attachment being near the point of insertion of the cord. The mass occupied nearly the whole thickness of the placenta, but, on the uterine side, was covered by a complete layer of placental tissue. The capsule had been opened on the fœtal surface, and on that side the growth appeared to have been covered by little more than the thickness of the chorion. Near the surface of the main growth were several small, similar detached masses, from a quarter of an inch in diameter downwards, attached only to a few chorionic villi. The main growth was well supplied with arteries and veins of the ordinary kind, totally different in character from the usual maternal vessels of the placenta. He had not yet made microscopic sections of the growth, but would report on its histological structure at a future meeting.

DESCRIPTION OF A KYPHOTIC PELVIS WITH REMARKS ON BREISKY'S DESCRIPTION.

By Francis Henry Champneys, M.A., M.B. Oxon., F.R.C.P.

ASSISTANT LECTURER ON OBSTETRICS, ETC., AND ASSISTANT OBSTETRIC PHYSICIAN TO ST. GEORGE'S HOSPITAL.

The following is the description of a specimen of angular curvature of the spine, in the Museum of St. Bartholomew's Hospital, with reference particularly to its influence on the pelvis. In the museum catalogue the specimen is thus described:

"1113 (D. 30). A spine, thorax, and pelvis. There has been ulceration of the bodies of the lumbar vertebræ, and of the sacrum in its whole extent. Four of the bodies of the lumbar vertebræ are destroyed, and an angle is formed by the approximation of the vertebræ above and below the situation of the disease; this union by bone is incomplete. The thorax is depressed anteriorly, so that a space of only two inches and a half intervenes between the ensiform cartilage and the ossa pubis, and the false ribs nearly touch the crests of the ilia. All the ribs arch upwards and the sternum forwards."

To this description I have to add that the cervical vertebræ show no curvature, but that the natural curves in the thoracic and lumbar regions are reversed. The actual position of the cervical vertebræ appears to have been somewhat changed by a straight wooden rod which has been thrust down the spinal canal and has caused permanent separation of the fourth and fifth cervical vertebræ; but for this it seems as if the cervical spine would have its natural curve. The two lowest ribs have disappeared. The disease, which has resulted in angular curvature, seems to begin at the tenth thoracic vertebra, from which point to the end of the sacrum (which consists of six elements) the bodies are fused into a solid mass, the several vertebræ being distinguishable behind by their spines, laterally by

their transverse processes, but undistinguishable in front. (The clearness of the specimen has not been improved by varnishing). The sacral, lumbar, and lower thoracic vertebræ are in fact generally disorganised by extensive caries which has produced alterations which need not here be particularised. As above said, the cervical region presents its usual curve, or is perhaps straight; the upper nine dorsal vertebræ present uniform backward concavity or forward convexity; below the ninth dorsal vertebra the curve is reversed into one of backward convexity or forward concavity, most intense at the last dorsal vertebra, and from thence gradually diminishing to the third lumbar vertebra, from which point it again slightly increases till it ends at the angle formed at the first sacral vertebra. The angle formed at the junction in front of the ninth and tenth dorsal vertebræ, between the upper and lower limbs of the curve, is about a right angle. Below the first sacral vertebra the tips of the spines of the sacrum are almost in a straight line, the axis of the sacrum not maintaining the direction of the lowest part of the lumbar curve but forming between the first and second sacral spines an obtuse angle opening backwards.

With regard to the question of lateral deviations of the spine, the spines of the whole vertebral column, from atlas to coccyx, are as nearly as possible in an absolutely straight line, but if the horizontal line joining the tubera ischii be taken as a guide, the whole spinal column deviates slightly towards the left side; and this is confirmed by the position of the ribs, which all but overhang the left iliac crest, while the plane of the lateral boundary of the right ribs falls within the crest of the right ilium.

Although the individual bodies of the vertebræ of the lower limb of the curve cannot be distinguished, it is plain that a process which may be called one of reversed or posterior spondylolisthesis has taken place; this seems to have reached its height at the junction of the third or fourth lumbar vertebra with the vertebra below it.

The signs of this are the following:—The spines of

these vertebræ point upwards, the transverse processes, instead of being horizontal, have their anterior borders directed almost vertically downwards, while the bodies of the four lowest lumbar vertebræ measure vertically in front no more than an inch together, whilst behind, measured along the spines, the *chord* of their height is $2\frac{3}{4}$ inches. (From upper border of body of first sacral vertebra to upper surface of articular processes of tenth dorsal vertebra (chord) $3\frac{1}{4}$ inches $8\frac{1}{2}$ cm. From lower border of lowest lumbar spine to upper border of tenth dorsal spine (chord) $4\frac{1}{2}$ in. $11\frac{1}{2}$ cm.) The fusion of the bodies of the lumbar and lower thoracic vertebræ reminds one of the fusion of the vertebræ in the neck of a whale.

It seems, indeed, as if, after great softening of the vertebral bodies, a downward force had been applied in front and an upward traction behind, rotating the lower limb of the curve round a horizontal axis. This is directly opposite to the usual description.

The pelvis shows the usual effects of kyphosis in a high degree, to be more particularly enumerated, the most marked characters being great horizontality of the ilia, conjugate expansion, and funnel shape. It is almost completely symmetrical and, with the exception of the sacrum, shows no signs either of disease or dwarfing.

Pelvis (detailed description).

Ilia strongly developed, very horizontal, S-shaped curve feeble, fossæ looking upwards, forwards, and but slightly inwards; anterior superior spines remote from symphysis pubis (distance on right side to upper border of symphysis $5\frac{1}{4}$ in., left $5\frac{1}{2}$ in.). Anterior inferior spines and upper borders of acetabula strongly developed; groove for tendons of ilio-psoas muscles deep, specially on left side. Seen from the outer side the length of the crest is great (ant. sup. spine to post. sup. spine, right $5\frac{3}{4}$ in. 15 cm.; left ditto).

Pubes strongly developed, symphysis deep and massive, forming a prominent but rounded projection.

Ischia strongly developed, curved backwards and in-

wards; spines of ischia square and projecting towards the cavity of the pelvis. Tubera ischii perhaps somewhat elongated antero-posteriorly, and perhaps also somewhat rounded and narrow. The varnishing has obscured the facets.

Acetabula deep.

Obturator foramina triangular (vertical dimensions: right, 1¾ in. 5 cm.; transverse, 1⅜ in. 3½ cm; left, ditto.

Pubic arch shaped like the merrythought of a goose; the borders of the arch everted at their middle, especially on the left side. Seen in profile, there is a marked forward protuberance at the pubo-ischiadic junction and from this point the ascending rami of the ischia are inclined markedly backwards.

Lumbo sacral angle (anterior) absent.

Pelvic brim roughly egg-shaped, with the small end forwards. More particularly there are only two points where the linea innominata is considerably curved; namely, just in front of each sacro-iliac joint and close to the symphysis pubis; between these points it is nearly straight, and, indeed, there is slight indentation opposite the acetabula. On the sacrum the linea innominata is concave, but here there is erosion of the bodies of the sacral vertebræ. The greatest width of the pelvic brim is opposite the sciatic notches or about 1½ in. (4 cm.) along the conjugate vera of 5¼ in. (13½ cm.).

Pelvic inclination can only be approximately ascertained, but as far as can be estimated by posing the skeleton in the position it must have occupied during life, so as to balance the weight of the body, shoulders, and head, the brim must have been nearly horizontal (pelvic inclination abolished) and the pelvis must have rested almost or quite like a tripod on the tubera ischii and sacrum.

Summarised Description.—The skeleton shows advanced dorso-lumbar kyphosis without any scoliosis; the body-weight, however, apparently slightly overhung the left side of the pelvis.

The upper limb of the kyphosis shows anterior con-

vexity, the lower limb, however, the unusual character of posterior convexity.

The lower dorsal and lumbar vertebræ have their bodies quite disorganised by caries; it seems, however, that the greatest compression in this region has been in front, and the direction of the plane of the surfaces of the bodies of some of the vertebræ in this region appears to be almost perpendicular to the plane of the upper surface of the first sacral vertebra.

For instance, the anterior surface of the body of the last lumbar vertebra appears to rest almost or altogether on the upper surface of the first sacral vertebra, and to have been moved very far backwards along this surface, while the spine of the same vertebra is vertically nearly 3 inches (about 7½ cm.) above the same surface. The process may be described as one of "posterior spondylolisthesis," and is quite contrary to the condition usually found, in which the lower limb of the spinal curve presents forward convexity, as well as anterior convexity from side to side, the production of which is elaborately explained by Hoening,* but the effects of disease in this respect are probably various, and this exceptional point has not, as we shall see, hindered the formation of a thoroughly characteristic kyphotic pelvis.

The sacrum is nearly straight and less distorted, posteriorly at least, than the adjoining portion of the lumbar spine. In front it is so eroded that any remarks as to its conformation are superfluous.

The influence of kyphosis on the pelvis is thus described:

1. The body-weight acting on the lower limb of the kyphosis falls abnormally far back.

2. The upper part of the sacrum is rotated backwards, the lower part forwards.

3. The bodies of the upper sacral vertebræ retreat backwards from between their alæ, causing transverse concavity of the sacrum.

* 'Beitr. z. Lehre vom Kyph. verengten Becken.,' Bonn, 1870, S. 43.

4. The anterior surface of the sacrum is straightened and drawn out from above downwards.

5. The pelvic inclination is diminished.

6. Increased traction on the ilio-femoral ligaments causes inversion of the ischio-pubic and eversion of the iliac portions of the ossa innominata; the venter ilii looks more horizontally upwards; the dist. sp. il. and cr. il. are increased; the S-shaped curve of the iliac crests is diminished; the posterior superior spines are approximated; the brim is narrowed transversely, widened antero-posteriorly.

7. The insertions of the ilio-femoral ligaments, namely, the anterior inferior spines and the upper borders of the acetabula, are strongly developed.

8. The tubera and spines of the ischia are approximated, and the pubic angle is narrowed.

9. Increased inward pressure on the acetabula causes approximation of the posterior parts of the horizontal pubic rami and projection of the symphysis.

10. The tubera ischii are driven backwards and inwards, and are rounded and slender, the ascending rami of the ischia are stouter and more everted.

With regard to the pelvis before us the backward retreat of the bodies of the upper sacral vertebra is masked by the extensive caries in this region. With regard to Point 10, which is founded on the description of Breisky,* a few words seem to be necessary.

Breisky's description with regard to this point is the following:—"In kyphosis, in which the weight of the trunk is displaced far backwards, it is necessary for the maintenance of equilibrium in sitting as well as in standing upright, and still more in walking, that the ossa innominata should be strongly inclined towards the horizon, and the trunk cannot therefore rest on the usual parts of the tubera ischii. In marked kyphosis, therefore, the pelvis rests in sitting on the most anterior parts

* "Ueber den Einfluss der Kyphose auf die Beckengestalt," 'Zeitsch der k. k. Gesellsch. der Aerzte in Wien,' xxi Jahrgang, 1 Band, S. 59.

of the tubera ischii and the so-called ascending rami of the ischia. Pressure on this point gives the tuber ischii a backward direction, which is already facilitated by the combined rotation of the ossa innominata by the traction on the 'ligamentum superius,' and the ascending ramus of the ischium bends backwards with a well-marked angle at the still pliable 'junctio pubo-ischiadica' in many cases, which is marked still more plainly by a protuberance of the edge of the pubic arch (conf. fig. 10). In such cases the preparations can sometimes be balanced in this position on a horizontal plane, and I have had the photograph (fig. 10) taken in this position. The tuber ischii, which in kyphosis is not so much exposed to pressure in sitting as usual, and which is exposed to a diminished traction from the insertions of its ligaments and tendons, appears rounder than usual and not facetted. Since, however, the parts of the tuber ischii which support the weight have been placed far forwards by the strong inclination of the ossa innominata, they must also be displaced outwards by the rotation of the ossa innominata already described. Consequently the weight of the pelvis in sitting must still more increase the position already produced by the rotation of the ossa innominata, outwards above, inwards below; and in cases where the pubo-ischiadic junction is unusually pliable, the angle corresponding to the junction may be even somewhat bent outwards."

The description of Breisky is generally accurate, but his explanation seems open to question, and calls for criticism all the more that it is freely copied in text-books.

The first part of the history of the production of a kyphotic pelvis consists in the forward bending of the upper limb of the kyphosis, the disturbance of equilibrium by the weight of the body and head falling too far *forwards*, and in the diminution of the pelvic inclination in order to bring the centre of gravity again over the centre of support. The force which modifies any part of

the pelvis may be the direct pressure of the body-weight, or may be any one of the components into which this may be split. In kyphosis the latter play the more obvious part, but the pressure on the tubera ischii in sitting does not belong to this category, and its action entirely depends on the pelvic inclination during sitting. On this point it is generally admitted that actual observations are much needed; meanwhile it is beyond dispute that one of the first links in the chain of the changes in the kyphotic pelvis is the diminution of the pelvic inclination, and it is not likely that the change of position from standing to sitting can reverse so important a condition. Moreover, on reference to his fig. 10, which he quotes in confirmation of his views, and which is represented balanced on the tubera ischii in an attitude representing nearly or quite the normal pelvic inclination, it at once strikes us that the skull is absent, not to mention the upper limbs, and that their weight, falling as it would much in front of the centre of support, would necessitate a very considerable diminution of the pelvic inclination before the complete skeleton could be balanced on the tubera ischii. The facts, however, with regard to the conformation of the bones, are generally in accordance with Breisky's description, and it remains to suggest an explanation in place of the one we have just criticised.

It seems not unlikely, then, that the explanation is to be sought in the stretching of the longest fibres of the great sacro-sciatic ligament which go from the posterior inferior iliac spine to the tuber ischii. The backward retreat of the upper part of the sacrum carries with it the adjacent part of the ilium, including the posterior inferior spine, and, in elongating the total antero-posterior diameter of the inlet (conjugate), also probably stretches the longest fibres of the great sciatic ligament. The line of traction exercised through this ligament would meet with hardly any opposition from pressure; indeed, the normal pelvic inclination would have to be nearly *reversed* before this would take place. The action of the lower

fibres of the great sciatic ligament, rising from the third and fourth sacral transverse tubercles, and therefore below the axis of rotation of the sacrum, would be relaxed, but their relaxation could not abolish the tension of the longer fibres (the small sciatic ligament is for the same reason also relaxed, and the spines of the ischii are directed less backwards than usual).

One other point in Breisky's description invites criticism, viz. the last sentence in the above quotation. It refers to the rotation of each os innominatum round an axis running from below and inwards in front, upwards and outwards behind, viz. at right angles to the direction of the force exercised through the ilio-femoral bands, the tension of which is increased by the diminution of the pelvic inclination. This axis may be described approximately as running from some part of the symphysis pubis, to some part in the upper region of the sacro-iliac synchondrosis. The wording of the sentence alluded to is somewhat vague, but if it means (as it certainly may mean) that this rotation will produce an *inward* bending at the ischio pubic junction, it seems to us that the axis of rotation cannot possibly be placed so low, and that the inward bending must be the result of *sitting*. In accordance with this view this flexion at the ischio-pubic junction is decidedly better marked on the left side in our pelvis, the left being the side overhung by the body-weight, and this is the only considerable want of symmetry in the pelvis.

This is the corollary, and the opposite condition to that found in the scoliotic pelvis. In the scoliotic pelvis, which is usually lordotic also, the increased lateral expansion of the whole pelvis carries the tubera ischii *outside* the sacro-iliac joints, and sitting produces *e*version of the ischio-pubic and *in*version of the iliac portions of the ossa innominata; while in kyphosis the lateral expansion of the pelvis is diminished, the tubera ischii fall *within* the sacro-iliac joints, and sitting produces *in*version of the ischio-pubic, and *e*version of the iliac portions of the ossa inno-

minata (see 'Ed. Med. Jour.,' Sept., 1880, "Scoliotic and Naegele Pelves"). The sentence in the above quotation which says that, "since the parts of the tuber ischii which support the weight have been placed far *forward* by the strong inclination of the ossa innominata, they must also be displaced *outwards* by the rotation of the ossa innominata already described," seems to us unintelligible. We have already spoken of the pelvic inclination which is not increased but diminished or altogether abolished, and the tubera ischii cannot be "displaced *outwards*" by the rotation described. Can the words outwards (nach aussen) be misprinted for inwards (nach innen)? Breisky's language on either side of these words quite supports such a supposition.

One other point occurs to us to notice: the weight in the kyphotic pelvis is sometimes described as acting backwards and *upwards*. Hoening, loc. cit., S. 43, says: "Der Druck auf das obere Ende des unteren Höckerschenkels wirkt auf das obere Kreuzbeinende . . . nach oben und hinten." It must not be forgotten that this is a loose way of talking, and that what is really meant by it is that traction is exerted in a direction which, *in the case of normal pelvic inclination would be* upwards and backwards.

Theoretical Description.—The following is the probable history of the deformity before us.

Caries attacked the vertebral bodies in the lower dorsal lumbar and sacral regions. The body-weight fell forwards and slightly to the left. To restore equilibrium, the pelvic inclination was diminished; the weight of the head and body above the angle of curvature, acting on the upper end of the lower limb of the angle as on a lever, drove this downwards and backwards and rotated the lower limb of the angle round a horizontal centre, piercing (nearly) the third sacral vertebra, thus turning the upper part of the sacrum backwards, the lower part forwards.

The caries completely disorganised the bodies of the lower lumbar vertebræ, so much so that the body-weight acted on them in this region as on a molten mass and

displaced the lower lumbar vertebræ backwards, producing a sort of "posterior spondylolisthesis" (an unusual point).

In the backward retreat of the upper part of the sacrum, the posterior ends of the ilia were involved;—the conjugate became enlarged, the tubera ischii (through the traction of the longest fibres of the great sciatic ligament rising from the posterior inferior iliac spines) were drawn backwards, causing an angle seen in profile on the pubic arch.

The body-weight falling backwards instead of forwards entirely reversed the usual lateral expansion of the pelvis causing lateral compression (especially as the inward pressure on the acetabula was unopposed), and antero-posterior expansion, instead of lateral expansion and antero-posterior compression. In accordance with this, the S-shaped curve of the iliac crests is very feeble.

The diminution of the pelvic inclination threw additional tension on the ilio-femoral bands (indicated by hypertrophy of their points of origin, viz. the anterior inferior iliac spines and the upper borders of the acetabula), and rotated the ossa innominata round an axis at right angles to the line of traction, viz. an axis running from within and below in front, outwards upwards and backwards (*i.e.* from somewhere in the symphysis pubis to somewhere in the sacro-iliac joint); the part of the ossa innominata above these axes being drawn outwards forwards and downwards, the part below them inwards backwards and upwards.

The ilia are therefore everted and horizontal, the ischia inverted. The ischial spines, moreover, are square and inverted, owing to diminished traction on the small sciatic ligaments through forward rotation of the lower part of the sacrum.

Lastly, the effect of sitting is shown in the additional inversion and inflection of the ischia, the non-expansion of the pelvis and traction of the ilio-femoral bands having brought the tubera ischii within the sacro-iliac synchon-

droses, this effect being particularly marked on the left or slightly overweighted side.

From the point of view of practical obstetrics, the fœtal head would have entered the brim without difficulty, but at the outlet it would have had to pass through a space 3½ in. by 2½ in. (9 cm. by 6cm.), of this space the anterior part (bounded by the pubic arch) would have been unavailable, and the practical oval would have measured some 3 in. by 2½ in. (8 cm. by 6 cm.).

It must not however be forgotten that in these cases the inter-ischiadic space often admits of considerable expansion under traction by forceps, which cannot be estimated by previous tentative divarication by the fingers, and that any lesions produced by friction of the soft parts against the bones are relatively unimportant being low down and far removed from the peritoneum and bladder.

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Right.	In.	Cm.	Left.	In.	Cm.
From angle of S-shaped curve of iliac crest to sacro-iliac joint at linea innominata (Grund-mass) right	2¼	5½	From angle of S-shaped curve of iliac crest to sacro-iliac joint at linea innominata (Grund-mass) left	2¼	5½
From angle of S-shaped curve of iliac crest to posterior superior spine, right	2¼	5½	From angle of S-shaped curve of iliac crest to posterior superior spine, left	2½	6½
From right posterior superior spine to left anterior superior spine	7½	19	From left posterior superior spine to right anterior superior spine	7¼	18½
Height of the side wall of the pelvis, right (perpendicular from lower border of tuber ischii to brim)	3¼	8½	Height of the side wall of the pelvis, left (perpendicular from lower border of tuber ischii to brim)	3¼	8½
From anterior superior spine to tuber ischii, right	6¼	16	From anterior superior spine to tuber ischii, left	6¼	16
Oblique diameter of brim, right	4½	11½	Oblique diameter of brim, left	4½	11½
Sacro-cotyloid diameter, right	3½	9	Sacro-cotyloid diameter, left	3½	9
Sacro-cotyloid diameter (from 3rd sacral vertebra), right	3⅛	8	Sacro-cotyloid diameter (from 3rd sacral vertebra) left	3¼	8¼
From anterior inferior angle of sacro-iliac joint to middle of base of acetabulum, right	2¼	5½	From anterior inferior angle of sacro-iliac joint to middle of base of acetabulum, left	2⅜	6
From spine of ischium to sacrum, right	¾	2	From spine of ischium to sacrum, left	1¼	3
From tuber ischii to sacrum, right (from middle of tip of sacrum to middle of inner border of tuber ischii)	2½	6½	From tuber ischii to sacrum, left (from middle of tip of sacrum to middle of inner border of tuber ischii)	2¼	6

	In.	Cm.
Greatest anterior breadth of sacrum at brim (Grundmass)	4	10
Sp. il.	9½	24
Cr. il.	10½	27
Conj. ext. (to first sacral spine)	6½	16½
Distance between angles of S-shaped curves of iliac crests	5½	14
Dist. sp. il. post. sup.	2¼	6
Height of sacrum in front (arc)	3⅜	9½
Height of sacrum behind (arc)	3½	9
Height of symphysis pubis	1¾	4½
Conj. vera.	5¼	13½
Conj. diag.	5¾	14½
Conj. normalis (to third sacral vertebra)	4⅝	12
Transverse diameter of brim (greatest)	4½	11½
Transverse diameter of brim (anterior) (inter-acetabular at brim)	3¾	9½
Antero-posterior diameter of cavity (to third sacral vertebra)	4¼	11
Trans. diam. of cavity (between the bases of acetabula	3½	9

	In.	Cm.
Antero-posterior diameter of outlet	4	10½
Transverse diameter of outlet (inter-tuberous)	2½	6½
Dist. spin. isch.	2½	6½
Angle formed by the lines drawn from the spp. il. ant. sup. to the tubera ischii, and produced	70°	
Angle formed by the lines drawn from the S-shaped curves of the iliac crests to the spp. il. post. sup., and produced	70°	
Antero-posterior diameters :		
Brim	5¼	13½
Cavity	4¼	11
Outlet	4	10½
Transverse diameters :		
Brim	4½	11½
Cavity	3½	9
Outlet	2½	6½

ON PUERPERAL DIABETES.

By J. Matthews Duncan, M.D.

In the title I use the word diabetes to indicate the conditions of disease universally recognised by the term. The researches of Blot* and of others have shown that in the end of pregnancy and during suckling there is a small quantity of sugar generally in the urine, in amount so small as to lead to no confusion with true diabetes. This interesting normal or physiological condition has no affinity as yet made out with the disease diabetes. It is sometimes called, for distinction's sake, glycosuria; sometimes, as expressing a theory, galactosuria or resorption-diabetes.

I have designated this paper "On Puerperal Diabetes," not diabetes occurring in or merely coincident with pregnancy, parturition, or the puerperal state. In the same manner is described the nephritis of pregnant, parturient, and lying-in women or the scarlatina puerperarum. Each of these diseases is believed to have such important differences from the regular or ordinary history of the malady as to justify the use of a name implying a nearly specific distinction. Some diseases occur in pregnancy as mere accidents, and have, meantime, no place in puerperal pathology, just as a broken leg has no such place; but this is not the case with diabetes, with nephritis, with scarlatina.

The advance of physiology makes it certain that pregnancy brings about important changes in the quantity or constitution of the blood, the bones, the skin and its appendages, the heart, and the great glands, and makes it highly probable that every solid and fluid constituent of the frame is profoundly modified for the time. It is, therefore, not be wondered at that diseases affecting this new or altered body should present variations which may amount

* 'Gazette des Hôpitaux,' 1856, No. 121.

to almost specific differences. And it is my conviction that when our physiological knowledge is somewhat farther advanced, and when skilled observers have occupied the field, all diseases, including surgical accidents, will have their puerperal variations well defined, and suitable therapeutics adjusted to them.

The physicist has to investigate the general subject of the conduction of heat, and, in addition, special branches of the subject, such as the conduction of heat along heated rods. In like manner, the physician has to describe not only the general disease, diabetes, but also its modifications by other diseases, by surgical accidents, and by the extraordinary yet healthy conditions of pregnancy and lying-in. The diseases of diseases form an important branch of pathology to which already many contributions have been more or less formally made, and in this connection the work of Marchal—'Recherches sur les accidents diabétiques' (1864)—may be mentioned. Though pregnancy is not a disease, yet its pathology has affinity with the subject of diseases of diseases.

Surgeons are well aware of the danger of operating upon diabetic patients, much more so, indeed, than one would gather from the perusal of systematic surgical treatises; and latterly Senator* has laid it down as the view of many surgeons that operations should be undertaken "only under the most extreme necessity, and with particular caution, on account of their great liability to gangrene." But, besides gangrene, there is the danger of rapid collapse, which may even be sudden. To this subject Cadget has contributed a case, and Verneuil‡ has written an important paper on it.

In medical practice it is well known that, besides the dangers directly associated with the disease, diabetic patients are liable to be carried off by attacks of intercurrent affections, as of bronchitis or of pneumonia, which

* 'Ziemssen's Cyclopædia of the Practice of Medicine.' English translation. Vol. xvi, p. 1004.

† 'British Medical Journal,' Oct. 9, 1875, p. 453.

‡ 'L'Union Medicale,' No. 142, *et suite.*

would, in ordinary circumstances, excite no alarm; and Griesinger* has remarked that a fatal issue in such a case may be very perplexing and misunderstood if the diabetes is intermittent and happens to be absent at the time of the fatal intercurrent disease.

The notices of any special influence of diabetes on the female functions are very scanty and of very little value. I have observed amenorrhœa, and Seegen remarks that he has also occasionally remarked it, adding, however, that he has seen regular menstruation up till death in cases of severe diabetes. The cases I have narrated and others, to some of which Griesinger refers, show that diabetes may come on during pregnancy, after delivery, and during suckling; but they are not numerous enough nor well enough detailed to justify any deductions from them. They merely establish the possibility of the supervention of diabetes in these states.

Of diabetes in pregnancy and parturition our knowledge is scanty in the extreme, and Senator notes it as a matter for wonder that "even pregnancy has been seen to take place in diabetic women, according to Budge, Seegen, and others, but," he adds, "it seems to be frequently ended prematurely by abortion." In his great work on pregnancy Montgomery† has nothing but a reference to the case of Bennewitz. Obstetrical works generally make no reference to the subject.

No doubt it is on account of its rarity that the complication of pregnancy and parturition with diabetes has failed to attract the attention of obstetricians. Diabetes is known to be rarer among women than among men. There is a widespread belief that, apart from its weakening or generally deteriorating the constitution, it has a special influence on the sexual energies, diminishing sexual potence. It is well known that this injurious influence is not observed in every case; in some, indeed, there seems to be the opposite. But I join in the general opinion, and while it is, for

* 'Archiv für Phys. Heilk.,' 1859, S. 52.

† 'Signs and Symptoms of Pregnancy,' 2nd edit., p. 49.

evident reasons, more easily ascertained in men than in women, there is no reason to limit it to the male sex. This acquired impotence of diabetic women may partially account for the rarity of the complication.

The rarity is attested not only by its having no historical place in literature, but by the actual experience of accoucheurs and of hospitals. We are constantly seeing nephritic and febrile and other complications, but this complication very rarely. The cases published in this paper include all of which I have any knowledge, yet I am sure that now, attention being called to the subject, the list of cases will soon be rapidly augmented. Griesinger says that of 53 female patients 2 were affected during pregnancy. In a private letter Frerichs writes, "Diabetes seldom occurs in women during pregnancy. Among my own 386 observations of diabetes, 282 were of the male sex and 104 of the female. Of these 104 of the female sex only one was ill during pregnancy, and in the eighth month."

MATTHEWS DUNCAN'S CASE.—*Suspicion of temporary diabetes at the end of a former pregnancy. Death of fœtus before the labour. Diabetes about end of eighth month. Labour about beginning of ninth month with collapse. Excess of liquor amnii. Peculiar breathing. Death on third day after delivery.*

Mrs. S—, æt. 30, had been married five years, and had had two healthy children and two early miscarriages, the latter since the birth of the second child. She enjoyed good health, but was not robust; and she frequently suffered from simple leucorrhœa. She is reported as having, in the end of her first pregnancy, suffered much from thirst, and as passing an enormous quantity of urine during the first two or three days after delivery. In this, her fifth pregnancy, she was more than usually weak and ailing, and she suffered much from mental anxiety, and from sympathy with family grief. In the second half of pregnancy she had thirst and

dryness of mouth; and, as time went on, this increased. About two months before her confinement her urine was examined and nothing abnormal detected, but it is not quite certain that sugar was specially sought for. She became very large, and, some weeks before coming to town for her confinement, she ceased to feel fœtal movements. On her arrival in London and the fifth day before her confinement, I visited her and found her in a very delicate condition, but cheerful and with no complaint except of her unwieldy size and of thirst. Her tongue was dry and brown. Her bowels not constipated. Labour was expected in about a month.

She did not remark increase of her urine, but her husband and her maid, when she subsequently became seriously ill, remembered that she had increased frequency of calls to pass water for two days before labour began; and her breath was noticed to have a mawkish sweetness of flavour. Labour began at 11 a.m. and the pains were frequent in the back, very severe yet not very painful. When I saw her, about 3.30 p.m., she was seated with a friend in the drawing-room, cheerful, and not alarmed. But she had a somewhat excited manner and her appearance at once produced in me the gravest alarm. Her lips were bluish, her face not pale as usual, but more coloured and blotched with large purplish areas. Her hands were clammy and cold, as in death. Her pulse 96, temperature 98°; yet she sat and talked vigorously and not like an invalid. I gave her brandy, and proposed to have her carried upstairs to her bed, but she declined assistance and went easily up to her room and lay down. All this time and until about six hours after her confinement her breathing was laboured. After the birth of the child it became considerably easier and gradually the laboured character disappeared, but from 3.30 p.m. till the discharge of the liquor amnii the breathing was excessively laboured. There was no complaint of the breathing, no ordinary dyspnœa, no orthopnœa, no acceleration, but in other respects, or in manner, it was that of extreme difficulty.

The cervix uteri was found healthy and the os about two inches in diameter. No progress being made, the membranes were ruptured at 5.30 p.m., and five quarts of liquor amnii were discharged. At 6.30 the head was on the perineum. Labour pains continued good under the partial influence of chloroform, but quite powerless though the parts were extremely relaxed. The head was in the first position. At 8.15 p.m. the anæsthesia was deepened by chloroform and the child delivered with the smallest possible force by short forceps. The child was large even for a nine-months' fœtus; it had been dead for some time, its epidermis freely peeling off. The placenta came away easily and without hæmorrhage. She had made water before lying down between 4 and 5 p.m., but after delivery her bladder was observed to be replete and I drew off by catheter an enormous quantity of urine which was not measured. Before delivery and immediately after it, inclusive, a drachm and a half of liquid extract of ergot was administered; and during labour forty-five drops of chlorodyne. After labour, at her request, twenty-five more drops of chlorodyne were administered. She went soundly asleep and shortly before 10 p.m. I left her with no sign of disorder except deep and somewhat laboured breathing and a weak pulse, 120. Her skin was now naturally warm, not hot.

Between 2 and 3 a.m., that is, about five hours after her confinement and after the complete evacuation of the bladder, she passed spontaneously three pints of urine, sp. gr. 1022. She slept with slight interruptions and in her sleep had some incoherent talk; and it may be here remarked that she continued in this light sleep almost continuously till she became moribund when she could not be roused.

About 10 of the morning after her confinement her pulse was 128 and temperature 98·4°. Tongue dry. Great thirst. Drank large quantities of milk and beef-tea and some brandy, and continued to do so to the end. About 3 p.m. the urine was 1025. Pulse 130, temp. 98·8°, resp. 18. At 9 p.m. pulse 138, resp. 20, temp. 98·5°. During this, the

first day after delivery, she drank three pints of milk and three pints of beef tea, and she passed 228 ounces of urine. It was found by Mr. Gripper to contain 3 per cent. of sugar and a trace of albumen. This last was not found on subsequent testings.

In the course of the second day Sir W. Gull was consulted and small doses of strychnia were given. At 9 a.m. pulse 120, feeble; temp. 96·5° (doubtful); sp. gr. of urine 1024. At 1.30 p.m. pulse 144, temp. 98·1°, resp. 22, urine 1020. At 9 p.m. pulse 120, temp. 98·1°, resp. 20, urine 1025. In all 103 ounces were passed on this day.

On the third day the respiration became laboured again, and often a respiration was interrupted; and this state, with variations, continued to the end. At 9 a.m. pulse 156, feeble; temp. 98·5°, resp. 23; urine required to be drawn off and expressed. The case was now under the constant observation and care of Dr. Champneys. The following brief notes are from his observations. Thirty-one ounces of urine, sp. gr. 1025, which had all to be expressed from the bladder, at 7 a.m.

The temperature, pulse, and respirations from 9 a.m. were as follows:—9.45 a.m.—temp. 97·8°, resp. 28. 11.15 a.m. —pulse 168, resp. 24. 12 noon—temp. 101°, pulse 160, resp. 25. 12·45. p.m.—pulse 152 (very feeble), resp. 28. 2 p.m.—pulse uncountable, almost imperceptible.

The following additional circumstances were noted:

At 9.45 a.m. the respiration became peculiar; it consisted of two distinct rhythms, mixed in fairly constant proportions. For instance, the total number of respirations at that time per minute was 28, but they were not regular; in the first half minute 10 respirations were counted (*i.e.* at the rate of 20 per minute), while in the next ten seconds 8 respirations occurred (*i.e.* at the rate of 48 per minute). There were about 10 long inspirations and then 6 short ones as a rule, and the change from one rhythm to the other was sudden. At 12.45 the breathing became regular, but again irregular at 1.15; it became regular again before death.

The localised livid patches on face, hands, and body

persisted, and were plainly visible the day after death. This flushing increased before death.

The hands and feet were warmer than the forearms and legs during the last twenty-four hours.

Death occurred at 3.30 and from the heart. Respiration was maintained long after the pulse had practically disappeared, and laboured breathing with the use of the accessory muscles of inspiration was noticed only some quarter of an hour before death.

The irregular breathing was perhaps the final effort of the respiratory centre, for the breathing (as above said) became regular again before death.

W. L. Reid's Case.—*In first pregnancy a macerated child. Diabetes early in second pregnancy. Death of fœtus in eighth month. Premature labour a few days later. Excess of liquor amnii. Survival with persistent diabetes.*

Dr. Reid's narrative. Mrs. C—, æt. 32, was strong as a child; began to menstruate at 12 and was regular and normal till pregnancy seven months after marriage at 28. In 1869, nine years before marriage, she passed through a sharp attack of enteric fever, from which she seemed perfectly to recover. Fifteen months after marriage she was delivered of a dead eight-months' child, after having been a fortnight at least during which she frequently complained of feeling no motion. A nurse only was present at the birth but a neighbouring doctor was called in to remove the placenta. Dr. Reid saw the child's body a few hours afterwards and found it macerated but not putrid. A good recovery followed and four months afterwards she again became pregnant. Thirst was an early symptom, and after a little time, diuresis. These symptoms got worse as pregnancy went on, but she did not call special attention to them, supposing that they were incidental to her condition. She also got very thin and was troubled with crops of small boils.

A little over the eighth month she felt movement cease and, three or four days after, labour came on, slow in character, lasting for about twelve hours; the membranes not bursting till the head began to strain the perineum; and the quantity of liquor amnii was very great. Dr. Reid noted at the time that before his hands were washed the fingers became "sticky." This occurred to him as being due to the presence of an abnormal quantity of albumen in the fluid, and regarded the case as one of dropsy of the amnion. He examined the placenta, which was large and flabby; the amnion peeled very easily from the subjacent structures on the placenta proper, but otherwise there was nothing remarkable. The child was dead and the epidermis beginning to separate. It was very large and well nourished. The only point worth remark in the puerperium was that a day or two after labour the thirst became "frightful," and being refused water by the nurse, she crept on her hands and knees to the water bottle.

About two months after her confinement, on an incidental visit to her house in the country, I was struck with her thinness, weakness, and the dryness of her skin, and for the first time the idea that she might be suffering from diabetes occurred to me. Particular examination showed that such was the case. The memorandum of quantities and percentages of sugar, which was kept at the Western Infirmary, has been lost, but to begin with, she was found to be passing 22 ounces of sugar in the twenty-four hours.

She was put on gluten bread and encouraged to take exercise, when the symptoms immediately began to improve. The breathlessness, muscular weakness, and defective eyesight, from which she had suffered, gradually became less marked.

Dr. Andrew Fergus was consulted and, by his advice, a teaspoonful of lactic acid was taken three times a day till she began to suffer a good deal from rheumatic pains. She is now very much stronger, has little thirst, perspires pretty freely, takes all kinds of food, except those containing

much starch, and walks a great deal. Menstruation has always been regular and normal.

Rather more than six months ago she observed a swelling in the right breast which gave her pain. It was thought by us to have been possibly due to the action of the lactic acid; she thinks it malignant in character, her mother having died of epithelioma beginning at the vulva.

She now passes about 74 ounces of urine per diem, containing 10 per cent. of sugar; very acid; no albumen.

There is no history of diabetes in the family.

In June, 1882, Dr. Pavy reported the state of the urine as sp. gr. 1038, containing no albumen, sugar 20·83 grains per ounce, and acidity 3·78 per 1000 (expressed as oxalic acid), and expressed his opinion that diabetes had to do with the birth of the two dead fœtuses.

NEWMAN'S CASE.—*First pregnancy and confinement normal. Diabetes which persisted during the two succeeding pregnancies and till death. Second pregnancy and confinement natural. Third pregnancy child born dead at sixth or seventh month. Death of mother on third day of lying-in.*

Mrs. G—, æt. 36, married four years, first child two years old; was first seen on March 16th, 1876, was then the subject of diabetes, which was supposed to have existed for two or even three years. Urine six to eight pints in twenty-four hours. Now pregnant for second time. Parturition on March 31st at full time, and all went well; did not nurse the child. On May 15th the urine was acid, sp. gr. 1040, twenty grains of sugar in the ounce; about five pints in twenty-four hours. June 4th menses began. On September 8th found to be again pregnant, and nearly three months gone; little change noted in urine or in general condition; urine three to four pints in twenty-four hours generally, and on an average had twenty grains of sugar to the ounce. On December 23rd prematurely

confined; child stillborn, about sixth or seventh month. No special hæmorrhage or trouble in the birth. December 26th, died. Had been strange in manner since the birth, and then for twelve hours comatose.

NEWMAN'S CASE.—*Diabetes in two pregnancies. Children born alive. Death of mother, comatose, two years after birth of last child.*

From report made to him. A. B—, æt. 36, multipara, was early in 1878 found to be diabetic. Bore a living child in 1878, and another living child in 1880. In March, 1882, she died after three days of coma.

LECORCHÉ'S CASE.—*Diabetes after a successful pregnancy and delivery. Diabetes of infant. Diabetes persistent during subsequent successful pregnancy and parturition.*

OBS. XIV.*—*Saccharine diabetes. Pregnancy. Frequent attacks of bronchitis. Œdema of the lower extremities.*—Madam S—, is 27 years old, her last child 6 years. It is since her confinement that she has become diabetic, and, an interesting particular, her infant has also become diabetic.

This woman, daughter of a gouty man, has always been very nervous. Her mother died albuminuric.

She complains of disorders of vision, of pains in the nucha, of insomnia, of palpitations. We find nothing in the heart, but there is œdema of the lower extremities, and the pulse is intermittent, small, and unequal.

She is easily made rheumatic; nothing abnormal on examination of the lungs.

The appetite is very good without being exaggerated. Thirst is acute, and the patient passes about three litres of

* "De l'Endocardite diabetique." 'Archives générales de médecine.' Avril, 1882, p. 407.

urine in the twenty-four hours. The urine presents the following characters:

Density 1035, urea 13·20, sugar 41·65, uric acid 0·60, phosphoric acid 1·98.

The patient, four years ago, became *enceinte*, and has brought her pregnancy to a successful termination.

JOHN WILLIAMS'S CASE.—*Mother and two sisters diabetic. Elder sister, diabetes after confinement; recovered. Patient's first child born alive at term, diabetes found next day. Second child born alive at term, excess of liquor amnii and no sugar in it. Diabetes persists.* (*Note of third pregnancy and death.*)

Mrs. —, æt. 25; April, 1880; has had no abortion.

Mother known to be diabetic for four years; diabetes controlled by diet.

Elder sister married, has been twice pregnant. Diabetes discovered accidentally after second confinement. Made good recovery after confinement. Quantity of urine not increased, and of sugar small.

Younger sister known to be diabetic about four months, quantity of urine and of sugar high. Dieted; both reduced. Died April, 1881, from cardiac failure during an attack of simple enteritis.

Mrs. — was confined of her first child April, 1880. Was under chloroform for three hours. Child a fine healthy girl. At 12 noon on following day bladder was found distended, and more than two pints of dark urine were drawn off. About same quantity passed at 7 p.m. For five following days about four pints of urine passed daily. No symptoms. Did not suckle. No milk. On fifth day after confinement urine tested for first time, and found to be loaded with sugar. It rather quickly diminished, and on seventh day was estimated, and found to be nineteen grains to the ounce. Sp. gr. 1042.

Eighth day after confinement, quantity 56 oz. Sp. gr. 1028 and 1032; less sugar.

Tenth day after confinement, quantity 30 oz. Sp. gr. 1030; no sugar all day.

Eleventh day after confinement, quantity 34 oz.; no sugar all day.

Twelfth day after confinement, quantity 32 oz.; no sugar all day.

Was dieted moderately, took no sugar in tea, &c., but took a little fruit and cake occasionally, and potatoes.

February, 1881.—Urine examined by Dr. Ralfe. Quantity 1150 c.c., acid, sp. gr. 1034, urea 38·1 grms., HPO_3 2·9 grms., sugar 28·7 grms.

August 18th.—Quantity 30 oz.; sugar under 2 per cent.

Confined August (end of), 1881, of a fine healthy boy. Very quick labour, lasted only a few hours. Large quantity of liquor amnii. Almost a pint collected. Examined by Ralfe, myself, and another, independently. No sugar found by one of the three. She made a quick recovery after both labours.

At no time has she had thirst or great hunger, or dryness of the skin or any other of the symptoms of diabetes, and the quantity of urine is if anything below the average. Sugar is sometimes absent, but more usually present. Avoids excess of sugar, but does not diet herself. Does not take alcohol in any form. Her general health is good. She is thin, and weighs about nine pounds less than before marriage. She is unable to bear any great exertion. Twice after inhaling nitrous oxide for tooth extraction has had prolonged syncopal attacks.*

* *Third Pregnancy.*—(Analysis of urine by Dr. Ralfe.)—5th month: quantity, 1400 c.cms., sp. gr. 1041, sugar 39.2 grms. 6th month: 42 oz. or 1225 c.c., sp. gr. 1045, sugar 756 gr. or 50.3 grms. 7th month: quantity, 66 oz. or 1875 c.c., sp. gr. 1041, sugar 64.1 grms. or 990 gr. Pregnancy went on to the full time; labour was short and easy; child smaller than either of the others. The day after labour six pints of urine were passed, the portion first passed had a sp. gr. of 1017, that passed later 1025; then the amount diminished to four pints, and at the end of a week it was less than three pints daily. The sp. gr., however, went up, but it was always under 1030. At the end of a week the quantity passed increased to six pints, but it diminished again

JOHN WILLIAMS'S CASE.—*Sixth child died during pregnancy. Born at eighth month. Diabetes from early in this pregnancy. Death sudden four months after delivery.*

R. S—, æt. 36, married eleven years (May 2nd, 1882), has had an abortion between the third and fourth month, and borne six children, the last stillborn at eight months in January last. It was believed to have been dead fourteen days. Complains of profuse leucorrhœa, offensive and greenish in colour. Has not been in good health since a bad labour four years ago, after which she had an abscess

and during the fourth week it was under three pints. For the first fortnight after labour the uterus remained large and the fundus was above the brim, then it sank into the pelvis and a large decolorised clot was expelled. For nearly four weeks there was a slight discharge of blood. She went downstairs for the first time three weeks after her confinement; she felt well and looked well, but thin. Four weeks after her confinement she was subjected to slight exposure, and in the night she appears to have had several slight rigors. Next day she complained of severe pain in the hypogastric and right iliac regions; the pulse was 120 to 130 and the temperature 104° F., and remained so throughout the day. The uterus was large and movement of it caused great pain; there was no distension of the abdomen, but there was marked tenderness over the uterus and right iliac fossa. On the following day the temperature was 103° F.; the pulse as before. The tongue, which was clean and moist before the attack, became covered with fur on the second day. The temperature remained high for three days, for three more days it rose to 101° F. at night, after which it remained normal, except on one or two occasions when it was under the normal. There was no exudation throughout but the uterus became fixed. During the first three days when the fever was high the amount of urine was under three pints daily and the sp. gr. was not increased; as soon as the fever subsided the quantity passed increased to about four pints daily, and the tongue became red, raw, and afterwards dry. During the six days she took very little food and she vomited several times. On the eighth day of the illness the urine increased to six pints with a sp. gr. of 1037. On the afternoon of the ninth day of illness she complained of severe pain in the left side below the heart; she soon became delirious and then comatose, and died eight hours after. There was no secretion of urine from the time the delirium set in; there was obstinate constipation throughout and great loss of flesh. For several days before death the breath had a very distinct sweet odour. The urine contained a large quantity of sugar throughout, but the amount was not estimated.

opened through the front passage. Has bearing down in both passages, and feels feverish and thirsty. Passes a large quantity of urine; has a good appetite, but is losing flesh fast. Bowels constipated. Tongue clean. Catamenia appeared at fourteen and stopped for six months, and then were pretty regular till marriage (May 9th). Urine loaded with sugar, no albumen.

She began to be thirsty soon after she became pregnant with her last child. The child when born was offensive. She also began to pass urine in great quantity as she became thirsty. She had had no thirst or copious micturition with any of her other children. Since her confinement the thirst has continued as before it, but the quantity of water, which is always clear, is increased. She began to lose flesh soon after conception. She used to get stout during pregnancy, but in her last she got thinner, and since her confinement she has been losing flesh more rapidly than before it. Since her confinement has had several boils. She has not suffered from sore throat, nor eruption on skin; nor has any of her children presented any cutaneous eruption anywhere. Until last pregnancy has always drunk little during that state. No family history of polyuria. She was ordered a grain of opium twice daily.

May 16th.—Bowels very confined. She is very prostrate and unconscious, and has been wandering, and has vomited. According to sister-in-law the amount of urine passed in one day last week was four quarts and one pint. Now the urine is loaded with sugar and contains albumen. She had been going about on 14th and 15th and enjoyed her food, and her death on the 16th was sudden and apparently from syncope.

Post-mortem, by Mr. Victor Horsley, on May 18th. Body much emaciated. No petechiæ or boils. No hypostatic congestion. Rigor mortis fairly well marked. Serous membranes normal except adhesions in right pleura. Meninges normal, except pia mater very pale. Lower lobes of both lungs hypostatically congested, very œdematous, friable. Upper lobes well aërated, tough. Endocardium

normal, valves healthy, slight yellowish mottling in some places. Stomach greatly distended by three to four pints of dark green fluid. Liver large, flabby, green in colour; lobules indistinct on section; capsule not increased; substance friable, pale and granular in appearance. Kidneys the seat of intense cloudy swelling, in many places gone on to extensive fatty degeneration. Density diminished. Capsule strips off easily with smooth surface left. Ureters normal.

John William's Case.—S. P—, æt. 33 years, came to me in July with the perinæum torn through to the rectum. She was delivered of her seventh child on March 2nd. The face presented and delivery was accomplished by forceps. Although the perinæum was stitched at the time, it failed to unite. In other respects she made a good recovery.

First pregnancy thirteen years ago. For the first three months she was very sick and ill; she was also very thirsty, often getting up in the night and drinking a "quart of water." She also got very thin. She does not remember whether she passed an unusual amount of water. Both the thirst and loss of flesh continued until the confinement. After getting up she became well and strong again, and noticed nothing wrong.

Between her first and second pregnancies she had rheumatic fever, and was ill for a long time.

The second pregnancy commenced a little over eleven years ago. For the first three months she was sick and lost flesh. At the end of this time the sickness ceased and she became strong again. She was troubled with unusual thirst all through her second as in her first pregnancy, but she had no urinary trouble except that she was unable to retain her water during the latter months.

The third pregnancy occurred about ten years ago. In the course of it there was no vomiting, no abnormal thirst, and no urinary trouble, but she lost flesh slightly. During no one of the pregnancies was the appetite in any way abnormal.

The fourth pregnancy was terminated eight years ago; there was great sickness during the first three months, but no thirst, wasting, or polyuria.

The fifth pregnancy terminated five years ago. Its history was like that of the previous one.

She was confined for the sixth time three years ago. She was sick for the whole nine months. Two months before delivery she brought up some dark blood while coughing. She lost flesh during the whole time, and she became thirsty, especially during the last three months, and for the last month the urine ran away from her, but she does not know whether she passed an increased quantity. About three weeks after her confinement she had two fits during the same night. They came on during sleep, and she knows

nothing of them except that she was told the first lasted fifteen minutes and the second thirty minutes, with ten minutes interval between them. She did not bite the tongue, but she is said to have thrown herself about and to have been held down.

The seventh pregnancy took place at the time already mentioned. There was no sickness, but she wasted a great deal. There was some thirst during the first months, and the urine ran away during the last. At other times she can retain it well. She has been very irritable for last three or four months; has felt thirsty for three or four days only; mouth and throat for last two days have felt dry, especially at night; tongue sticks to roof of mouth in the morning, now raw and overclean, cracked transversely; gums for last month apt to bleed in the morning, now red and spongy, and readily bleed. Eyesight has been getting bad since confinement; cannot see as plainly as she could; left eye most defective; no sign of cataract. Heart, lungs, nervous and digestive systems, with the exception named, healthy. Neither spleen nor liver could be felt. Uterus of normal size; sound passed 2½ in., less movable than natural; slight tender thickening on left. Temp. normal.

22nd.—Urine contained a trace of sugar.

23rd.—Sp. gr. 1042; large amount of sugar; reduces five volumes of Fehling's solution. Pil. Opii, gr. ½, twice a day, and diabetic diet. Belladonna to breasts.

24th.—Sp. gr. 1030; 230 gr. of sugar in the twenty-four hours.

25th to 28th.—Much less sugar, about one tenth of what it was.

26th.—Sp. gr. 1030.

28th.—Sp. gr. 1015. Made an out-patient; operation postponed.

All her labours except the last have been easy. She made good recoveries, and she nursed her children usually for eighteen months. She had rheumatic fever twelve years ago, and eighteen months ago; both bad attacks, the latter complicated by pleurisy and inflammation of the lungs. Had three abscesses on the left arm six years ago. No falls or blows.

Catamenia 14—15 regular, moderate, and painless.

Family history.—Father dead, 44, consumption; mother dead, 66, bronchitis. Two brothers; one consumptive, other's chest bad. Four sisters; one has dreadful cough; one has spat blood and is dropsical and asthmatical; two healthy; one died of bronchitis eleven days after delivery. Father's brother and a cousin on father's side died insane.

She has been getting thinner since her last confinement, people in the house notice and speak about it. Gets tired easily; does not think she passes more urine now than usually; since confinement, however, she has at times been obliged to pass it frequently. Urine remained loaded with sugar until August 8th, after that date none was found. She was taken into the hospital at the beginning of October, the perinæum was operated upon and it united in a most satisfactory manner. Since she has been back in the hospital the urine has been examined daily but no sugar has been found in it.

Aubrey Husband's Case.—*Diabetes in third pregnancy. Child born feeble, died after a few hours. Death of mother eight months afterwards, diabetic. Liquor amnii saccharine.*

Mrs. A. B—, married in 1871, at 23 years of age, and at that time in good health and stout. Her first child was stillborn in October, 1872. Her second child was born in good health in October, 1873, lived three years, and died of meningitis. Her third child was born in November, 1874, was "a miserable object," and died in a few hours. After the birth of her third child she suffered from piles and from boils, and she died with symptoms of laryngeal phthisis in July, 1875. About the time of her death she was passing fifteen pints of water a day. There was no history indicating hereditary diabetes.

In February, 1874, she was stopped nursing by advice, and from this she dates her illness. All her life she had a habit of drinking largely of water, and during this pregnancy she had much thirst and hunger. The abdomen became very large and she was greatly emaciated. By Sutton's volumetric analysis the liquor amnii, collected in a clean vessel as it was discharged, was found to contain 0·7 per cent of sugar. At the same time her urine was of sp. gr. 1028·4, and contained 5·54 per cent. of sugar.

Five analyses of the urine, made in November and December, 1874, showed variation in specific gravity from 1030 to 1034·4, and of percentage of sugar from 6·45 to 7·35.

Bennewitz's Case.*—*Diabetes during fourth, fifth, and sixth pregnancies. Diabetes disappeared after each pregnancy. Fifth child premature and born dead, and weighing twelve pounds. Menstruation during fifth pregnancy.*

A stout young woman, who previously had three children,

* Reported in 'Edinburgh Medical Journal,' vol. xxx, 1828, p. 217, from 'Osann's 12ter Jahresbericht des poliklinisches Institutes zu Berlin,' p. 23.

and always carried her child to the full time without any material disturbance of her health, became pregnant for the fourth time. During the whole of that pregnancy she was tormented with insatiable thirst and profuse discharge of urine; but, as she had no other complaint of sufficient moment to attract her attention, she did not apply for advice, and the nature of the urine was never ascertained as the quantity of liquid she drank was naturally thought to be a satisfactory explanation of the increased quantity of liquid discharged. The thirst and diuresis ceased suddenly soon after she was delivered, and she recovered perfectly.

At the age of twenty-two she became pregnant for the fifth time, and hardly had the pregnancy begun when the thirst and diuresis reappeared even in a more tormenting degree than before; no other symptom of ill health, however, accompanied them, so that it was not till the seventh month that she applied for medical advice, and even then thirst was her chief complaint. The desire for drink, caused by a burning and itching sensation in the throat, was such that she drank daily five or six Berlin quarts, but her hunger was not preternatural. Her digestion at the same time was vigorous, and although she said she had been much stronger at the commencement of her pregnancy, she was still a stout-looking woman. The urine considerably exceeded in quantity the liquid drank, amounting, in fact, to eighteen medicinal pounds; it was watery and muddy, had a faint smell, like stale beer, and had a taste resembling that of beer but much sweeter. The tongue was clean and dark red, the mouth constantly dry, the gums shining, red, and retracted, so that the teeth were loose; the voice weak and hoarse; the bowels regular; her sleep disturbed by calls to drink; the skin rough, harsh, dry, never perspirable; the pulse full, hard, and frequent; the temperature of the body irregular; and menstruation had continued during the whole period of her pregnancy. Latterly she had also pains in the loins shooting towards the pubes, and particularly troublesome when she walked. No symptom whatever could be

detected of a local affection of the kidneys. On account of the state of the pulse twelve ounces of blood were taken from a vein, but no change whatever was caused in the symptoms. The blood drawn formed an abundant dark red crassamentum without siziness, and a clear serum of a peculiar faintly-sweetish smell and taste. A strict animal diet and warm clothing were then enjoined, together with the occasional use of magnesia and hyoscyamus to keep the bowels moderately open; but, although she in consequence seemed to feel more comfortable, the state of the urinary secretion remained unaltered. About this time it was analysed by Hermbstaedt, and found to contain two ounces of saccharine matter per pound (*civilpfund*).

At length the labour pains commenced prematurely (the precise time not mentioned), and she was delivered of a female infant weighing twelve pounds, and which died in the passages. Next day she was attacked with great weakness, tearing pain in the lower belly so acute that she could not bear the pressure of the bed clothes, delirium, flushing of the countenance; but, as the lochia continued to flow naturally, she was not subjected to any particular treatment. Next day, however, the same symptoms continuing, leeches were applied to the abdomen and a laxative administered. The operation of the latter was followed by profuse perspiration, the first she had had since her pregnancy began. The inflammatory symptoms then rapidly disappeared; at the same time the thirst, diuresis, and saccharine taste of the urine became less and less, and she was soon restored to perfect health. The urine was carefully analysed again by Hermbstaedt (at what distance of time after delivery is not stated), and he could not detect in it any trace of sugar. Six months after being dismissed cured she became pregnant a sixth time.

The relater did not see her during this pregnancy, but he was subsequently informed by her that she had the same thirst, heat in the throat, and diuresis, though in a much less degree than formerly, and that in addition she had a profuse "fluor albus," which no treatment could check during her

pregnancy, but which ceased of its own accord soon after delivery.

WINCKEL'S CASE.—*Diabetes observed in second confinement. Child born alive.*

A factory-woman Potzsch, secundipara, was admitted January 21st, 1874. She was somewhat pale, but apparently strong and well-developed, had a good panniculus adiposus, and slight rickety bending outwards of the lower extremities. As a girl she had often been troubled with glandular swellings, and learned to walk only in her third year. Later also she was liable to glandular swellings, frequently had cough and suffered from chronic catarrh. Menstruation began in her eighteenth year, and recurred during the first year regularly every four weeks; then for a considerable time she was irregular, sometimes missing the period for three months; and latterly, before her pregnancy, was again regular, the period lasting from four to eight days, flowing profusely and with slight pain.

On December 1st, 1872, she was delivered by turning of a dead male child in the hospital. She remained six weeks in the house and was for twelve more weeks unfit for work.

Her last menses were in the end of April, 1873, and symptoms of pregnancy were natural. Breasts small and containing little. Belly very distended, pendulous; walls loaded with fat; middle line quite weak up to the pit of the stomach. Navel expanded; striæ very slight. In the right labium majus and right thigh considerable varicosities. No œdema. Anterior vaginal wall considerably prolapsed; vaginal portion persistent. External os uteri patulous, and with numerous fissures. Fœtal head mobile, first position. Conjugata externa 18 cm.; conjugata vera about 8·5 cm. Liquor amnii in large quantity. On the day of parturition slight mellituria. After a labour of fifty-three hours forty-five minutes, she was delivered on February 24th, 1874, at

5·45 p.m. of a female child, alive, 51 cm. in length, 3370 grms. in weight. First stage fifty-three hours, second stage thirty minutes, third stage fifteen minutes. On account of rigidity of the mouth of the womb, and very frequent and painful contractions, injections of chamomile tea were used, and twice morphia was subcutaneously injected. The placenta weighed 600 grms. No laceration of the perineum.

In the puerperium the temperature gradually, till the evening of the fourth day, rose to 40 C., then sank, but again on the ninth day reached 40·1 C. Meantime the uterus was very tender on pressure. On both sides the nipples were chapped. Bronchial catarrh. At first the bladder was satisfactorily evacuated, but later there was some strangury and incontinence, and pain if the bladder were not frequently emptied. On the thirteenth day she was discharged. At her leaving the hospital the urine had a strong saccharine reaction. Normal involution of the genitalia had taken place. The child weighed 3550 grammes.

MATTHEWS DUNCAN'S CASE.—*Diabetes began at quickening in eleventh pregnancy. Child large and born dead. Diabetes disappeared. Relapse. Death eight months after delivery, comatose.*

L. R— was 35 years of age when she consulted me in September, 1879. She was in good health, her diabetes having disappeared, but she dreaded a renewal of pregnancy, being convinced that she would not survive it, so great had been her sufferings in the last. She had had one miscarriage, and nine births at the full time. The last child she described as enormous. It was born dead in May, and the labour was tedious. Almost certainly it was dead before its birth. She made a good recovery.

The diabetes began at quickening, her sufferings then, and subsequently, from thirst being great. About a month after delivery, in May, Mr. Venning found the urine very acid, sp. gr. 1046, and containing a large amount of sugar,

which, under treatment, disappeared after a week. The diabetes relapsed in October and she died in January in the country. Mr. Venning, who was called to her, found the breathing hurried, and a general condition of great exhaustion. Coma soon came on and lasted for twenty-four hours when she expired. No family history of diabetes.

DAVIDSON'S CASE.—*Diabetes in middle of fourth pregnancy. Father diabetic. Child alive, feeble, one month premature, lived thirteen hours. Temporary disappearance of diabetes after labour. Death four months afterwards from diabetes.*

On March 20th, 1882, I was called by Dr. Davidson to see Mrs. S—, who was pregnant, very ill, and suffering from diabetes. She was 38 years of age, had been married for six years and had had three children naturally. She had nursed her last babe, which was now twenty months old. At my visit she was seven and a half months pregnant. Complained of great weakness, and looked pale, somewhat livid, and exhausted. She was rapidly losing flesh and her mammæ especially had shrivelled. She had been suffering severely from thirst for three months. Her father suffered from diabetes.

A week before the consultation Dr. Davidson found the urine 1042 with 10 per cent. of sugar. Dr. Davidson reports that on March 22nd she passed five pints of urine, sp. gr. 1018, giving no reaction with Fehling's solution. On the 23rd 4 pints. On the 24th 3 pints, sp. gr. 1018. On the 25th 3½ pints, sp. gr. 1015. On the 26th 3½ pints, sp. gr. 1017; diarrhœa. On the 27th 3½ pints, sp. gr. 1020; diarrhœa. On the 29th diarrhœa; child born prematurely 4.30 p.m. Liquor amnii sent to me contained no sugar, sp. gr. 1020. Child apparently premature a month. On the 30th much less urine, thirst abated, great weakness, but pulse and temperature normal. On the 31st 1½ pints of urine, sp. gr. 1020, no trace of sugar. On April 1st 1½ pints of urine,

sp. gr. 1020. On the 2nd as before; no thirst. Child lived only thirteen hours.

Subsequently, Dr. Davidson writes: "She was confined prematurely on the 29th March, immediately after which I could detect no trace of sugar, and the quantity of urine was normal. She did not make a good recovery, and suffered much from liver trouble with migraine, which yielded very slowly to treatment; and on the 6th May sugar was again detected in the urine, which increased to Oiiiss, and had a sp. gr. of 1030. Codeia and regulated diet, from which she had previously derived benefit, failed to improve her condition, and she suffered at short intervals from diarrhœa and other distressing symptoms of liver trouble, with impaired digestion, loss of appetite and strength. The treatment was varied from time to time but without any marked effect. She took ℈j doses of tannin, pulv. oper. gr. j, and ʒj tinct. ergotæ, three times a day for some time, after which I tried iodoform and extr. lactucæ, and eventually returned to codeia in doses of gr. j, three times a day, but with no marked benefit; and the digestive disorder becoming chronic, rendered the case almost hopeless.

"On the 7th July, Dr. Pavy saw her, but did not consider it necessary to modify my treatment and gave an unfavorable prognosis on account of her age (æt. 38). Very obstinate constipation was throughout the case the most troublesome symptom and resisted all treatment. About 8 a.m. on the 14th July she began to exhibit symptoms of approaching coma, and in an hour later she became unconscious and continued so till her death, which occurred at 8.30 a.m. on the 16th."

Dr. Pavy's analysis of July 7th. Sp. gr. 1028·5, sugar 11·21 grains per fluid ounce, no albumen, acidity 6·552 grms. per 1000 (expressed as oxalic acid).

Matthews Duncan's Case.*—*Sister died of diabetes. First pregnancy, boils, child died at eighth month, born at term. Second pregnancy, child born at term, decomposed.*

* 'Edinburgh Medical Journal,' February, 1873.

Third pregnancy, diabetes discovered in fifth month. Premature labour induced, child decomposed. Death second day after delivery.

The following notes are very imperfect, partly from loss of manuscript, partly from the circumstance that the patient was under the care of several physicians at different times. Her regular physician was Dr. Bell, of St. Andrews, and to him I am indebted for the greater part of the details here given.

Mrs. N—, æt. nearly thirty years, was married when twenty-six years old, and her present pregnancy (1871) is the third. She has a delicate but healthy appearance, and regards herself as, on the whole, a healthy woman. Her sister died of diabetes.

Her first child was born at the full time, on 23rd August, 1869. It was male, and decomposed. Judging from the symptoms in the mother, Dr. Bell thought the fœtus had died about a month before its expulsion from the uterus. After this confinement she suffered from successive boils; but, in other respects, made a good recovery. The urine was not specially examined.

Her second child, a male, was born about the full time, on 28th November, 1870. It was also in a decomposed state, the skin being purple and the cuticle peeling off. The placenta was found to have large fatty nodules and smaller fatty masses in it. During the last two months of this pregnancy she had taken perchloride of iron and chlorate of potass in moderate doses. There were no boils after this confinement, and she made a good recovery. The urine was not specially examined.

In May, 1871, she was sent to Langen-Schwalbach, and was under the care of Dr. Genth. While residing there she became pregnant a third time. On one occasion, while there, she had, when at stool, an attack of violent abdominal pain, with alarming pallor and faintness, which all soon passed off under simple treatment.

About the end of October she was at Harrogate, under

Dr. Myrtle's care. There she was suddenly seized with partial amaurosis of the right eye. Mr. T. Pridgin Teale, from Leeds, visited her, and had the urine examined, and it was found to be diabetic. He examined the eye by the ophthalmoscope, and saw about the central spot of the retina a large pear-shaped clot. The optic disc was natural. Mr. Teale attributed the hæmorrhage to the diabetic state of the blood.

In the middle of November I saw her in Edinburgh, and described her as thin and wasted-looking. Vision of right eye still imperfect, but improving. Tongue clean but dry. Much thirst. Pulse good. Temperature 95·6°. Skin not very dry, not scurfy. Uterus large for the period of pregnancy, tight, and unusually irritable, handling bringing on strong contractions very readily. Urine acid, sp. gr. 1039, no albumen, quantity not extremely large, contains abundance of sugar, as shown by the ordinary tests. The case to be watched, and ordinary diabetic treatment carried on by diet. An iron and chlorate of potass mixture was also ordered. She was at this time about the sixth month of pregnancy.

On the night of the 14th December Dr. Bell was sent for. He found Mrs. N— complaining of intense pain in the abdomen, which, coming on suddenly awoke her from sleep. Fancying it was cramp or spasm she had used hot fomentations, but they had given no relief. The pain was diffused over the abdomen, and apparently in the uterus, which was not tense or hard. There was no retching nor diarrhœa, and no cause for the attack could be discovered. The pulse was small and rapid; the face anxious. Opiates in various ways and chloroform inhalation were tried, but without lasting good effect; so, likewise a turpentine stupe. Soon the feet and hands became cold.

On the night of the 15th December I saw her, and found her in a most alarming state, with an almost moribund appearance. Coldness of surface. Pulse very quick and weak. Face pallid. Great pain in abdomen, chiefly in right flank; no great tenderness.

In consultation, it was resolved to induce premature labour at once. So far as we could judge, the patient was rapidly dying. Evacuation of the uterus might give some relief. The cervix uteri was dilated by india-rubber fiddle-shaped bags with great difficulty, there being persistent spasm of the external os. When it was of the size of about 1½ inch in diameter, the child was turned by external and internal manipulation, without introducing the hand; a foot was seized, the membranes ruptured, and the delivery was gradually effected early in the morning of the 16th December. Child dead and decomposing.

After delivery there was a lull in the symptoms; pain was less; quietness was for a time maintained; but no substantial improvement occurred. She felt better, and was astonished when Dr. Bell did not confirm her own ideas on this point. Movement was painful. There was occasional vomiting of dark-green fluid. She was clear in mind, and conscious till nearly the last. The symptoms were diligently used as guides for varied and assiduous treatment. On the night of the 16th she became unconscious and died on the 17th.

Post-mortem examination by Dr. Bell discovered in the lower part of the abdomen some patches of peritoneal congestion, and a small quantity of serum, tinged brownish-red, in the peritoneal cavity. There were large soft decolorised clots in the right side of the heart. No other morbid appearances were observed in the chest and abdomen.

FRERICHS'S CASE.—*Tenth pregnancy. Diabetes in eighth month. Death fifteen months later of phthisis and gangrene of lungs. Tumour of medulla oblongata.*

A woman, æt. 36, who had already borne nine children, was taken with diabetes in the eighth month of pregnancy. The lying-in was normal. The woman died fifteen months afterwards of phthisis pulmonalis and gangrene of the lungs; besides there was found atrophy of the bony skeleton and a

tumour of the left pyramid of the medulla oblongata, probably the cause of the diabetes.

SEEGEN'S CASE.*—*Three pregnancies during diabetes, all ended in miscarriage about middle of pregnancy. Death after third miscarriage.*

"I have observed a diabetic patient who, during the continuance of the diabetes, conceived three times, and there always followed miscarriage in the fourth or fifth month. In the last miscarriage the young patient, still very well nourished, died."

These histories comprise 22 pregnancies in fifteen women varying in age from 21 to 38 years. So far as is known, all, with one exception, were multiparæ, the pregnancy of highest number being the tenth. They cannot be read without giving a strong impression of the great gravity of the complication; but they are not sufficiently numerous to justify any statistical argument based on the numbers of the occurrences. In one, the first recorded, as in several others, death was by collapse rather than by coma, but that first case is remarkable in another respect, there having been a violent access of diabetic polyuria at the time of labour. This was shown by the suddenly commencing enormous discharge of urine, and it could not have been without special influence in inducing the collapse. Of the twenty-two pregnancies, including those going to term and those ending in miscarriages, in fifteen mothers, four ended fatally after delivery; premature labour having been in one of these four cases induced by me to avert death before delivery. These four were puerperal deaths in point of time.

Hydramnios was frequent, and in one case (Husband's) sugar was found in it; in another (Reid's), its observed stickiness makes its saccharine character probable.

In seven of nineteen pregnancies, in fourteen mothers, the

* 'Diabetes Mellitus,' 1875, p. 119.

child died during the pregnancy, having in all of these reached a viable age. In two more the child was feeble and died a few hours after birth, making an unsuccessful result of pregnancy to the child in nine out of nineteen pregnancies. In one other case the child had diabetes. The dead fœtus is sometimes described as enormous, or its weight is extraordinary; and this probably arises from dropsical infiltration as in the case here first recorded.

The histories farther show that:

1. Diabetes may come on during pregnancy.
2. Diabetes may occur only during pregnancy, being absent at other times.
3. Diabetes may cease with the termination of pregnancy, recurring some time afterwards.
4. Diabetes may come on soon after parturition.
5. Diabetes may not return in a pregnancy occurring after its cure.*
6. Pregnancy may occur during diabetes.
7. Pregnancy and parturition may be, apparently, unaffected in its healthy progress by diabetes.
8. Pregnancy is very liable to be interrupted in its course; and probably always by death of the fœtus.

Dr. John Williams said that although these cases were extremely rare, yet he thought them less infrequent than was generally supposed, and this was due to the fact that the urine was not examined in every case. Traces of sugar in the urine were common enough, indeed, he thought it was present in a majority of cases, but these were not cases of diabetes. During the last three years he had met with four cases; three of them are referred to in the paper. He then gave a few details of a fourth case.

Dr. Barnes observed that a collection of cases illustrating the graver accidents that attended diabetes in pregnancy was of extreme value. The subject had not been neglected in Tarnier's great work. He himself, twenty years ago, made an elaborate investigation into the condition of the urine as to albumen, urea, and sugar. He had frequently found sugar. It was a physiological condition, not constant, however. Dr. Sinety had shown

* Case given in a private letter from Frerichs.

that when lactation was suppressed glucose appeared in the urine. This was of especial interest in connection with the researches of Tarnier, proving the normal fatty change in the liver in gestation. Dr. Barnes drew a parallel between the history of albuminuria and glycosuria in pregnancy, for the purpose of showing that just as albumen was frequently found in the urine of pregnancy without entailing any grave symptoms, so it was in the case of sugar or glycose; but that the physiological boundary might be passed, and then the gravest accidents occurred. Thus, the physiological and pathological cases of glycosuria or diabetes were associated.

Dr. Champneys asked the President whether he considered the subject far enough advanced to formulate any rules of treatment.

Dr. Carter understood Dr. Duncan's paper to refer to women who were suffering from diabetes at the time they became pregnant, and drew attention to the serious dangers they were liable to during the course of pregnancy and as the result of the efforts of labour. When we remember how liable diabetic patients are to sudden collapses and coma after too great or too prolonged exertions, we need scarcely be surprised that such should occur as a consequence of the strain upon the system during pregnancy and at labour.

The President remarked that, with the exception of M. Bennewitz's and his own case, none had been published; and no general account of this terrible disease was to be found in the whole history of midwifery. The slight glycosuria to which Dr. Barnes referred had been long known, and was everywhere recognised. Many years ago, verifying the French researches, he had, in the Edinburgh Maternity, found it in every nursing woman; it was a natural physiological condition which had not been shown to have any relation to the terribly fatal complication he had been describing in his paper. He believed, with Dr. Williams, that now, attention being called to the subject, many cases would turn up. He could not lay down any special rules of treatment.

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ON THE TREATMENT OF POST-PARTUM HÆMORRHAGE BY HYPODERMIC INJECTION OF ERGOTININE.

By C. Chahbazain, M.D. of Paris.

The question of the treatment of post-partum hæmorrhage is one of the most important in midwifery. A quick, steady, and permanent contraction of the uterus is a condition *sine quâ non* for checking uterine hæmorrhage after delivery. This can be obtained by hypodermic injections of ergotinine. But what is ergotinine, and how does it differ from ergotine?

Ergotinine is the alkaloid of the ergot of rye, as quinine is the alkaloid of quinquinia, or morphia that of opium, while under the name of ergotine are known different products of ergot—that of Bonjean, Yoon, Wigger, Wenzell, and the extract of ergot of the B. P., these are simple extracts of ergot of rye.

Ergotinine was discovered by Charles Tauret, the distinguished chemist of Paris, in the year 1875, and the name "ergotinine" was given by him in order to distinguish it from the ergotine.

The composition of ergot is very complex. Chemists have discovered not less than twenty-four different substances, but the real alkaloid, with all the properties and chemical reactions of the vegetable alkaloid, was discovered only by Tauret. This alkaloid is in form of white crystals, insoluble in water and soluble in alcohol and chloroform. The mode of preparation and the chemical and physical characters of ergotinine cannot be discussed here, those who may be interested in the question can have a perfect notion on these points by consulting the paper of Tauret in the 'Annales de Chimié et de Physique,' 5e serie, t. xvii, 1879.

In order to show the extreme force and the powerful effect

of this alkaloid, I will only say that one pound of the fresh powder of the ergot of rye gives only three grains of the crystallised alkaloid.

Ergotinine was first used against hæmoptysis and hæmatemesis, afterwards against every kind of hæmorrhage, in other words, whenever there was an indication for the use of ergot.

My friend and master, Dr. Budin, of Paris, whose important obstetrical works are not unknown to this honorable Society, had used in some cases of post-partum hæmorrhage ergotinine, and had obtained very good results, but unfortunately these results are not yet published.

I had lately a very good opportunity of using the ergotinine in a hospital which has a universal and traditional reputation in our obstetrical science—I mean the Rotunda Lying-in Hospital of Dublin.

I will here thank Dr. Atthill, the master of this hospital, for the kind permission that he gave to me for testing the efficacy of this alkaloid. I could not have chosen a better place for using that medicine; in the first place, because of the great number of cases which are attended in this hospital, natural as well as complicated; in fact, during the three month that I passed there, the cases of "post-partum" hæmorrhage were not unfrequent; and, in the second place, for the control which each case has naturally undergone by the presence of the assistants and of some young doctors who attend the hospital. I give a great importance to this second point, because I think that such investigations must be done before medical men and not simply in private practice.

In what case must ergotinine be used? What are its advantages over ergot and ergotine? In what doses and how must it be used? These are the questions which we shall now discuss.

The alkaloid of ergot must be used in every post-partum hæmorrhage due to the absence of uterine contractions, or when after a good contraction there is a relaxation of the organ. Naturally, when there is a retained placenta

this must be first removed, and if the hæmorrhage does not cease the ergotinine may be used hypodermically.

The following is a case of this kind:

Case 1.—Mc—, æt. 39, fifteenth pregnancy, admitted to the Rotunda on the 10th August, 1882. She is at full term, and a child is born after six hours' labour. No hæmorrhage during the pregnancy. Fifteen minutes after the birth of the child some blood with clots came away. The expression of the placenta was attempted, but a great quantity of blood and clots was expelled without the placenta. Some traction of the funis was tried without result. The patient was continuously bleeding, the pulse becoming frequent and weak, and the uterus quite enlarged. I introduced my hand into the uterus, having the other hand on the abdominal walls, and with great difficulty I detached the placenta and the membranes, which were very adherent to the walls of the uterus. I waited for a contraction in order to have my hand expelled from the uterus with the placenta. This contraction came some minutes after, expelling the placenta and my hand, but the uterus relaxed immediately after, and a great rush of blood came away and filled a big basin. I injected then ten minims of the solution of ergotinine (containing only $\frac{1}{200}$ of the alkaloid) in the gluteal region. Soon after I felt the uterus contracting under my hand, placed on the abdominal walls, the bleeding ceased, and did not come any more. The binder was put on, the patient kept quiet, and brandy ordered.

The patient recovered after slight symptoms of septicæmia, but no local accident, neither any bleeding occurred.

I anticipate the objection that may be raised by the introduction of the hand into the uterus, but the contraction produced by it did not last long and relaxation came on; the ergotinine produced a steady and permanent contraction.

In the following cases the hand was not introduced into the uterus and the ergotinine acted very well.

Case 2.—Genville —, æt. 27, fourth pregnancy. Has had some post-partum hæmorrhage at her last confinement. Labour easy, lasting six hours, on the 20th of August, 1882. Placenta expelled naturally. Bleeding began immediately after the placenta was expelled. Ergot given by mouth, one ounce of the infusion; local application of cold water tried without result. Bleeding continued always by drops. Uterus softened, not well contracted. One hour after the ergot was given by mouth the bleeding continued and the uterus became more relaxed. I injected ten minims of the solution of ergotinine in the gluteal region and a strong contraction came on soon and the bleeding ceased. I stopped for more than half an hour near the patient and not a single drop of blood came on the vulva. No local accident.

Case 3.—Mrs. R—, æt. 22, primipara. Tedious labour, lasting twenty-six hours; placenta expelled fifty minutes after the child was born. Some laceration of the perineum. Bad contraction; hæmorrhage. Ergot given by mouth (liquid extract, a teaspoonful); continuous trickling of blood from the uterus for more than one hour after the ergot was given. I injected hypodermically eight minims of the solution of ergotinine in the gluteal region. Very good and strong contraction. Some drops of blood came from the laceration. No more bleeding. No local accident.

In the following case a good contraction came on after delivery, but some minutes later it was replaced by a relaxation, and ergotinine brought back the uterine contraction.

Case 4.—X—, æt. 41, eighth pregnancy. History of tedious labour previously; last pregnancy great difficulty in removing the placenta; hæmorrhage. Application of forceps on 25th of August, 1882, after eight hours of second stage, the head being on the perineum. Expulsion of the placenta by expression twenty minutes after. Good con-

traction of the uterus lasting a few minutes, then relaxation ; hæmorrhage with some clots. Ten minims of the solution of ergotinine injected in the gluteal region. A strong contraction came on and the hæmorrhage ceased. No local accident. No secondary hæmorrhage.

The three following cases are of slight post-partum hæmorrhage treated by ergotinine.

Case 5.—W—, æt. 32, seventh pregnancy; twenty-four hours in labour. Child born on 29th of August, 1882; placenta expelled easily; hæmorrhage after the expulsion, which continued for twenty minutes. Ten minims of the solution of ergotinine injected hypodermically in the gluteal region; hæmorrhage stopped by a good contraction. No local accident.

Case 6.—M—, æt. 28, fourth pregnancy; twelve hours in labour. Child born on 30th of August naturally. Hæmorrhage before the expulsion of the placenta; placenta expelled thirty minutes after by expression. Uterus relaxed and bleeding continued. Ergot given by mouth half an hour after; the hæmorrhage not yet stopped. Ten minims of the solution of ergotinine injected. Strong contraction came on and the hæmorrhage ceased. No local accident.

Case 7.—Second pregnancy, æt. 28. Tedious labour, perineum very rigid; placenta expelled twenty minutes after; moderate but persistent hæmorrhage. Extract of ergot one drachm given by mouth; cold water applied, and the child put to the breast without effort. A second dose of the extract of ergot given, one drachm thirty minutes after the first dose, the hæmorrhage continuing for one hour and a half after the expulsion of the placenta. Ten minims of the solution of ergotinine were injected. A good contraction came on and stopped the hæmorrhage. No local accident.

All these were cases of no serious hæmorrhage, those which are frequently met with in practice.

The following is a case of a very severe hæmorrhage in which the hypodermic injection of ergotinine was not sufficient to arrest the hæmorrhage, but this is a complex case; the hæmorrhage was not due to the relaxation of the uterus; there was a complete rupture of the perineum and of some piles. This case proves that the ergotinine, like the ergot, has no effect on the hæmorrhage due to rupture of the perineum, or of the vagina, or to the laceration of the cervix.

Case 8.—Primipara, æt. 24. Labour very tedious, lasting twenty-six hours; contraction very seldom and without effect. Forceps applied by Dr. Horne, assistant master of the Rotunda, on the 1st of September, 1882. Rupture of the perineum going to the sphincter ani (some piles), occurring when the child was coming out. Placenta expelled twenty minutes afterwards. A great rush of blood came away in a jet; the uterus is somewhat relaxed. Cold applications and ten minims of the solution of ergotinine injected in the gluteal region. A strong contraction was obtained but the hæmorrhage continued. Dr. Horne injected in the uterus hot water; the hæmorrhage ceased, but three hours afterwards a secondary hæmorrhage came on; stopped by ergotine by mouth. No local accident.

I used also the ergotinine in a case of secondary hæmorrhage.

Case 9.—C—, æt. 29, third pregnancy. Has had post-partum and secondary hæmorrhage in the two former confinements. Labour lasted four hours, and a child of 11¾ lbs. was born on Sep. 17th, 1882, in the Rotunda. Great difficulty during the expulsion of the shoulders. No post-partum hæmorrhage. On 22nd of September, at 10 p.m., a rush of blood with clots came from the vagina; I injected three drops of the solution of ergotinine and the hæmorrhage ceased. On 24th she had some more hæmorrhage, checked easily. No local accident.

In this case three drops of the solution were sufficient. Generally I used 10 minims, which correspond to $\frac{1}{100}$ of a

grain of the alkaloid, or one half of a milligramme. The solution of ergotinine prepared by Tauret himself is $\frac{1}{50}$ of a grain (1 mill.) to 20 minims. Here is the formulæ of his solution which he sent to me lately.

℞ Ergotinine, 0·01 centigramme ($\frac{1}{6}$th of a grain);
Lactic acid, 0·02 centigramme ($\frac{1}{3}$rd of a grain);
Aqua laurocerasi, 10·00 grammes (3 dr.).

Dr. Budin began to use 20 minims of the solution ($\frac{1}{50}$ of the principle) and he obtained very bad vomiting, and real accidents of intoxication occurred in the cases when $\frac{1}{10}$ of a grain of the artificial principle was used. But what is very curious to remark, that in small doses the effect of ergotinine on the uterus is far better and stronger than in high doses. In all cases that I used I never injected more than 10 minims of the solution ($\frac{1}{100}$ of a grain of the alkaloid), and I never obtained either local or accidents of general intoxication.

I have always used the ergotinine hypodermically, pushing the needle of the syringe very deep in the muscles of the gluteal region.

Like the solution of morphia the solution of ergotinine is very difficult to keep; it must be kept in a dark-coloured bottle, and if there is some deposit, it must be filtered with a small piece of cotton kept at the end of the needle. There is also a sirup of ergotinine prepared by Tauret, dose $\frac{1}{250}$th of a grain to the ounce; it is used in chronic menorrhagia and in profuse menstruation, from one to six teaspoonfuls during the day. I have never used it because of the slow effect that it has for arresting post-partum hæmorrhage and also for the fear of producing some vomiting.

Now, what are the advantages of ergotinine over ergotine?

1. Local abscesses and indurations are often observed after hypodermic injection of ergotine, while the ergotinine has not yet produced such an accident.

2. It is necessary to inject 20 to 40 minims of the ergotine of Bonjean or the liquid extract of B.P. in order to obtain a good and strong contraction, while with three to five drops of the solution of ergotinine a powerful effect is obtained.

3. Ergotine being a very complex product, its action is also complex and is not permanent, while ergotinine the real active principle, the alkaloid, acts more quickly and produces a more steady and permanent contraction than the former.

4. The action of the ergotine given by the skin on the uterus is not certain, while that of the ergotinine has not yet failed.

Ergotine corresponds to the extract of opium, ergotinine to the morphia. No one discusses to-day the advantages of morphia over the extract of opium. I give generally now four or five minims of the solution, and if I do not obtain a satisfactory result I give five minims more.

Case 10.—M—, æt. 36, eighth pregnancy; contracted pelvis. All the former labours terminated by an obstetrical operation. Full term, in labour for eighteen hours on 22nd September, 1882, in the Rotunda. Prolapse of the funis, head on the brim, very mobile. Forceps tried without result. Podalic version performed. Hæmorrhage after the extraction of the child, the uterus being very soft and relaxed. Hypodermic injection of four minims of the solution of ergotinine; good contraction; hæmorrhage ceased, and five minutes after placenta expelled naturally. I kept my hand on the uterus, and I found it becoming enlarged by-and-bye and quite softened. I pressed off the clots, and I injected six minims of the solution in the gluteal region. A violent contraction came on and no hæmorrhage occurred. No local accident.

As a general rule I never use the ergotinine when the uterus is not empty, but under peculiar circumstances I make some exceptions. In the following case, and in Case 10, I injected it before the placenta being expelled, because of the hæmorrhage, and as a prophylactic against post-partum hæmorrhage. It is worthy to remark that in the following case the placenta was expelled like a gun-shot immediately after the injection of seven drops of the solution, showing its tremendous action on the uterus.

Case 11.—D—, æt. 34, eighth pregnancy. Contracted pelvis, head on the brim and very mobile. Has had some hæmorrhage one hour before the labour began. Forceps applied without effect by Dr. Horne on 25th of September, 1882, after eighteen hours of labour. Podalic version performed and a small child extracted. Immediately after the child was born bleeding came from the uterus. I injected seven drops of the solution; a strong contraction came on, stopped the hæmorrhage, and expelled the placenta with the membranes, throwing them to a certain distance. No more hæmorrhage. No local accident.

I used the ergotinine in the following case as a prophylactic treatment for post-partum hæmorrhage, the uterus not being empty.

Case 12.—C—, æt. 25, fifth pregnancy; three days in labour—twins. First child extracted by turning, being an arm presentation; great quantity of liquor amnii. I injected three drops of the solution in the gluteal region, there being some bleeding. A good contraction came on and expelled the second child; the placenta expelled in fifteen minutes by expression. One placenta, separate membranes. No post-partum hæmorrhage. No local accident.

When the question of intra-uterine injection of perchloride of iron was discussed, the distinguished president of this Society, Dr. Matthews Duncan, divided post-partum hæmorrhage into two classes:—1. Those which are not very serious and are very frequent. 2. Those which are serious and very rare. It is in that first class of hæmorrhage that the hypodermic injection of ergotinine acts with great efficacy. Our pretension does not go so far as to say that ergotinine replaces the intra-uterine treatment of post-partum hæmorrhage, though in all cases but one after the hypodermic injection of ergotinine no other treatment had been necessary. But we shall suggest to use the ergotinine before any attempt at intra-uterine injection is made; a good contraction being obtained, the formation of thrombi in the open mouths of uterine vessels is of no more necessity.

Dr. Champneys asked Dr. Chahbazian how long the ergotinine could be trusted to keep.

Dr. Wiltshire thought the Society was indebted to Dr. Chahbazian for his lucid and important statement. If experience corroborated the author's statements, the hypodermic use of ergotinine in cases of post-partum hæmorrhage would be a source of comfort and relief to many an anxious accoucheur. Dr. Wiltshire would suggest that the hypodermic injection of ether might also be helpful in cases of severe collapse; and if ergotinine was not soluble in ether separate injections of the latter in drachm or half-drachm doses might be resorted to.

Dr. Brunton asked Dr. Chahbazian for information on a most important point, viz. What period of time elapsed between the injection and the action of the ergotinine?

Dr. C. Chahbazian.—Mr. President and Gentlemen,—I will address my thanks to Mr. President and to all the members of this Society who received my paper kindly and did me the honour of discussing it. I will thank also all the members of our medical profession in England, Ireland, and Scotland who gave to me a friendly hospitality. I cannot answer directly to the question of Dr. Champneys, as to how long we must rely on the ergotinine, because in all the cases that I used it other treatment had not been necessary; only once it had failed because of the rupture of the perineum and of piles, even in that case, after the intra-uterine injection of hot water, the steady contraction was due to the ergotinine, because the hot-water injection gives often relaxation after the contraction. I have no objection to using capsules or carbolic acid as a recipient in order to be able to keep it for a long time. As to the question how many minutes after the injection the contraction is obtained, this is very variable. It varies from for two minutes to five minutes; this is a point which must be studied in more cases than the twelve that I observed. Experiments are not yet made on animals, and the pamphlets written on the question are made on clinical facts in cases of hæmoptysis and hæmatemesis. But I hope to make some physiological experiments on rabbits, and see directly the action of the alkaloid on the uterus.

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DECEMBER 6TH, 1882.

J. MATTHEWS DUNCAN, M.D., F.R.S. Ed. President, in the Chair.

Present—53 Fellows and 5 visitors.

Books were presented by Dr. Gaston, Dr. G. de Gorrequer Griffith, Professor Macari, Dr. A. Martin, Dr. A. Wasseige, the Royal Medical and Chirurgical Society, the Clinical Society, the Edinburgh Obstetrical Society.

Mr. Charles E. Jennings (Malmesbury) and Mr. Thomas Wholey were admitted Fellows, and Dr. Charles E. Fitzgerald (Folkestone) was declared admitted a Fellow of the Society.

William Archdeckne Duncan, M.D., was elected a Fellow of the Society.

The following were proposed for election:—William Augustus Bonney, M.D.; Christopher Childs, M.A, M.B. (Weymouth); Edward Clapham, M.D. (Wimbledon); William Coates, M.R.C.S. E.; W. H. Fenton Jones, M.R.C.S.; William John Pook, L.R.C.P.; James J. Reynolds, L.R.C.P. (Portland); John Coryton Roberts, L.R.C.P. Ed.; Edward Sabine Tait, M.B.; William Cairns Wicks, M.B. (Newcastle-on-Tyne).

Dr. CLEVELAND, adverting to a specimen he had exhibited at the meeting of May, in 1881, showed another fleshy or

deciduous substance that had been discharged by the same patient in September of the present year.

He had had no opportunity of making an examination before labour commenced. Although a careful search was instituted, during and after labour, no evidence of a double uterus was obtained.

On this occasion the labour was at term, and although tedious, with breech presentation, the placenta came away easily, and the uterus was contracted and of normal size.

Forty-eight hours afterwards the substance shown was expelled, with scarcely the knowledge of the patient. It bears a resemblance to the former specimen and corresponds pretty closely in its dimensions, but the canal is rather wider, and the open end terminates in broader and more jagged extremities, and is less like the lips of an os uteri. It is not improbable that it may have been a little torn when it was removed by the nurse from the patient.

The PRESIDENT could think of no other explanation of the discharge of an unbroken finger-like decidua after delivery than by supposing it came from a double uterus; and he thought it almost certain the uterus must be bicornis not merely septus. Were it septus the unoccupied cavity would surely be larger than the size indicated by the decidua discharged.

Dr. WYNN WILLIAMS stated that he had at the present time a patient with double uterus. She had lately miscarried, since when she had suffered for some weeks with severe floodings. On dilating the uterus with a sea tangle he discovered a double uterus; the septum being at the junction of the body and the neck, a sound could easily be passed into both cavities.

DR. WYNN WILLIAMS exhibited a retained placenta with notes of the case.

DR. EDIS showed microscopic section illustrating his case of malignant disease of the cervix complicating pregnancy. The amount of stroma was small in comparison to the cells, resembling the appearance met with in cases of medullary cancer more than that of epithelial cancer.

PERIMETRIC ABSCESS.

Mr. Griffith showed a specimen of perimetric abscess situated behind the uterus and the left broad ligament, and extending to the apex of Douglas's pouch.

The rectum was displaced by it to the right, and at its junction with the sigmoid flexure is bent in three places at a right angle, causing complete obstruction.

The cavity, which contained about two pints of turbid, flaky serum, was preparing for evacuation by a large sloughing opening into the enlarged cervix, by another in the posterior *cul-de-sac* of the vagina on the left side, and by a third, less advanced, into the rectum.

The disease apparently commenced three weeks before admission into St. Bartholomew's Hospital with unusual symptoms, a sudden severe hæmorrhage, sacral pain, and a fœtid watery discharge, indicating cancer, of which, however, there is no sign.

The patient was 52, had passed the climacteric two years, and could give no cause for her illness.

Dr. Godson showed a uterus which he had removed ten days previously in a Porro's operation on a dwarf with contracted pelvis. The case would be published fully later on, but the specimen was brought forward now while fresh to show the furrows on the external surface, caused by the contractions of the peritoneum. They were well illustrated, though less deep than in the uterus recently shown by Dr. Walters, which Dr. Godson attributed to the action of the spirit in which this specimen had been kept.

Dr. Routh said, in regard to Dr. Godson's case, he would ask if any attempt had been made to hear the placental souffle by a curved speculum through the vagina, *i.e.* by vaginoscope; also, if the stethoscope had been applied to the sacrum behind, as he had sometimes succeeded in hearing the placental souffle in both these situations when he had failed doing so in the iliac or hypogastric regions.

CASE OF ADHERENT PLACENTA.

By Dr. Wynn Williams.

E. T—, æt. 36, married eight years, mother of four children, admitted into the Dorset House Branch of the Samaritan Hospital, October 12th, 1882. She stated that she had had three miscarriages, one in January last with excessive hæmorrhage, and another in July last, since which time she has not been free from offensive discharge of some kind or other, with severe floodings every fortnight. She was greatly anæmic.

On the twelfth day of admission a large sea tangle surrounded with cotton-wool and smeared over with iodine and glycerine was introduced into the uterus. On the 13th this was removed, when a substance could be felt in the neck of the uterus high up. On an attempt being made to remove it with a vulsellum forceps a piece only was broken off; the attempt was then made to remove it with an ordinary scraper, but this only tore through the mass. A large serrated scoop was then introduced above the mass and pressed firmly upon it with the two fingers of the left hand *in utero;* with a little to-and-fro movement the mass was dislodged from the uterus. As I anticipated, this proved to be an adherent organised placenta. She was syringed out with the usual iodine lotion.

The following day the pulse was 102 and the temperature 102°. She was ordered Tinct. Aconite ♏v, Liq. Ammon. Acet. ʒij, tertia quaque hora. The pulse and temperature rapidly became natural, and she had not another bad symptom.

The exhibitor stated that he had had lately two other similar cases.

FIBROID TUMOURS OF THE UTERUS REMOVED BY ABDOMINAL SECTION.

By Geo. Granville Bantock.

Case 1.—A married woman, æt. 47, without issue. Patient suffered great pain, the tumour was growing rapidly, menses regular, free, but not so excessive as to produce anæmia; pedicle obtained by applying serre-nœud about level of internal os, and excluding both ovaries. On the third day vomiting of yellow biliary matter set in, and she died on the sixth day.

Post-mortem examination revealed acute enteritis in three distinct patches; general peritoneal cavity perfectly healthy, the surfaces corresponding to the enteritis adhering to opposing surfaces by plastic lymph. Abdominal wound quite healed and stump progressing most satisfactorily. Other organs fairly healthy. No cause could be assigned for the enteritis except previous intemperance. Weight of tumour 3 lb.

Case 2.—A single woman, æt. 48. Menses had never been abundant and had quite ceased. Patient suffered very much from pain, and was unable to follow her occupation of general servant. The tumour was found covered entirely in front and laterally by omentum, of which the vessels were enormously enlarged. A very difficult operation. Pedicle secured by serre-nœud about level of internal os, with both ovaries.

A month after operation an abscess formed in upper part of abdominal wound, and some time after leaving the hospital a sinus formed in the neighbourhood of the stump. A probe passed into this can now be felt in the roof of the vagina and apparently connected with the remains of the uterus. Otherwise the patient is very well. Weight of tumour 8 lb. 2 oz.

Case 3.—A single woman, æt. 30, had suffered for many years from excessive menstruation. On admission to the hospital there was profound anæmia, great œdema of lower extremities and abdominal wall (hypogastrium), and the urine contained as much as one third of albumen. The operation was easy, but required an incision of over twelve inches. Serre-nœud applied about level of internal os, and both ovaries included. Within twelve hours of operation there was only a trace of albumen, and in three days the œdema had quite disappeared. The patient is now in excellent health. Weight of tumour 13½ lb., a large intramural fibroid.

Case 4.—A lady, æt. 46, single. Severe menorrhagia for many years; pronounced anæmia. Serre-nœud applied as in preceding cases, including both ovaries; pedicle very short. Is now in perfect health. Weight of tumour 3 lb.

Case 5.—A single woman, æt. 32. Tumour for about twelve months, growing rapidly of late; no menorrhagia. A short pedicle from fundus of uterus, tumour fearfully vascular, peritoneum very friable; great difficulty in preventing cutting by wire; ovaries ligatured separately; broad ligaments excessively vascular. Patient quite convalescent. Weight of tumour 3 lb.

All these cases demonstrated the value of the method he now adopted of securing the pedicle, viz. by means of Kœberle's serre-nœud. He was of opinion that whatever might be the future of the operation of oöphorectomy for the cure of fibroids, it could not enter into competition with that of hysterectomy in such cases as those here presented. In Case 2 a tumour, from which the omentum must have been torn before the ovaries could be reached, and whose surface afforded innumerable bleeding points could not be left. In Case 3 some of the most serious symptoms were the result of the pressure of the large mass. Indeed, there were real and substantial objections in each case to the minor operation.

Dr. Barnes observed that the tumours exhibited by Dr. Bantock were of a kind better dealt with by extirpation than by oöphorectomy. Speaking with the reserve dictated by the imperfect experience yet acquired, he thought the cases suitable for Battey's operation were hard fibroids in the walls of the uterus and projecting inwards. Tumours of a malignant type and myxomata were better fitted for extirpation. He could attest from clear observation the remarkable result of removing the ovaries in growing fibroids. Little more than a year ago he had performed this operation on account of a fibroid the size of the fist. A month ago he found the tumour practically gone, the uterus being almost of normal size. Some distress remained which he attributed to adhesions disturbing the movements of the intestines. He thought that, although definite conclusions could not during the experimental stage nor proceeding be arrived at, enough had been done to prove that Battey had earned a title to the gratitude of humanity and of his profession as one who had invented a new and useful operation.

Mr. Knowsley Thornton said that he did not think hysterectomy should be performed for uterine fibroid, unless the safer and smaller operation of removal of the ovaries and uterine appendages had first been tried and failed. He had been opposed to this latter operation, but having tried it in carefully selected cases, he had been so satisfied with it that he had now operated ten times, and all the patients had recovered, and all had been greatly benefited; in most of them the disappearance of the tumour had been quite beyond his most sanguine expectations, notably in one examined after operation by Dr. Godson, who had found an atrophic uterus within little more than two months of the operation. In some of the cases the uterus was still large, but in all great diminution had taken place. Had this operation been performed in the fatal case described by Dr. Bantock, the poor woman's life would probably have been saved. He did not think it was a question of mere removal of the ovaries, but of a clean sweep of the uterine appendages with such deep ligature of the large vessels between the tube and ovary, that the blood supply to the uterus was materially checked. The operation of complete removal of the uterine appendages is not an easy one, and a long incision may be required, so that the uterus can be turned out while the ligatures are applied. This he had been obliged to do in several of his cases. The cases operated upon had been similar to those described by Dr. Bantock.

Dr. Godson fully corroborated what Mr. Thornton had stated, and could go even further by saying that his examination revealed a uterus so small that it rather conveyed the idea of one which had become atrophied, as after the menopause.

Dr. Champneys said he should like to ask Mr. Thornton whether he considered the presence of a large fibroid, a rapidly growing fibroid, or a large rapidly growing fibroid, sufficient warrant for the operation of spaying, or whether he would confine the operation to cases in which life was in danger, as from excessive bleeding.

In reply to Dr. Champneys, Mr. Thornton emphatically stated even that this operation of removal of the ovaries and uterine appendages should only be undertaken in cases in which life was threatened or under special conditions demanding operation. It is far too much the fashion to operate for fibroid without urgent symptoms.

SWAN'S INCANDESCENT CARBON LAMP.

Dr. Aveling exhibited a modification of Swan's incandescent carbon lamp carried out by Mr. Stevenson and sold by Mr. Coxeter. The lamp is not much larger than an almond, and having a glass jacket the heat from it is never very intense. Fixed on a long stem it may be passed into cavities for operative or endoscopic purposes. Dr. Aveling thought it would be of great service to the gynæcologist, not only in examinations and operations of the pelvic organs, but also in cases of abdominal section, where light was required in any deep part where the daylight could not reach.

EPITHELIOMA OF CERVIX UTERI COMPLICATING PREGNANCY; CÆSARIAN SECTION; RECOVERY OF MOTHER; CHILD LIVING.

By Arthur W. Edis, M.D., F.R.C.P.,
ASSISTANT OBSTETRIC PHYSICIAN TO THE MIDDLESEX HOSPITAL, ETC.

A. B—, æt. 29, married two years and nine months. Mother of one child aged eighteen months, which she suckled for twelve months.

She had no sanguineous discharge until seven months

after her confinement, when she considered that she came on unwell, the period lasting one week. It recurred again two months afterwards and then slightly once a month until the first week in June 1881. Since this time she had no sanguineous discharge except on coitus.

In November she presented herself at the out-patient department at Middlesex hospital and stated that since the middle of June she had suffered from a yellowish, watery, offensive discharge per vaginam, pinkish in colour occasionally, together with severe pain in the back, which came on worse in the evening, about 5 or 6 p.m., lasted the whole night, interfering with sleep, and disappeared gradually towards morning. The pain was always increased on walking, working, or standing at the wash tub, when she described it as being of a severe bearing down character.

During the last three months she had noticed that she was getting thinner, with the exception of her abdomen, which was perceptibly increasing in size. On October 12th she experienced twitching in her stomach which she regarded as evidence of quickening. Since this she has felt fœtal movements from time to time, and has no doubt of being pregnant.

On examination the mammæ were observed to be firm, the follicles enlarged, the areolæ dark and the surface mottled with blue veins. The abdomen was distended supra pubis, the enlarged, pregnant uterus being plainly felt rising to within an inch or two of the umbilicus. The fundus vaginæ was found to be filled with an epitheliomatous mass involving nearly the whole circumference of the cervix uteri and creeping down upon the posterior vaginal wall to within one inch and a half of the perineum. The cervix was directed somewhat forward, the lips being hard and nodular, bleeding less than generally witnessed in cases of epithelioma of the cervix uteri.

On November 30, 1881, she was admitted to Bird Ward, Middlesex Hospital, under the care of Mr. Henry Morris, with a view to examining more thoroughly to determine the expediency or otherwise of the extirpation of the entire

uterus by the Porro-Freund operation. This was not considered advisable, on account of the posterior vaginal wall and subjacent tissues being implicated in the diseased process.

An opiate at bedtime and a disinfectant injection were ordered and the patient allowed to return home for a time.

On Feb. 14, 1882, the patient was readmitted under the care of Mr. Morris, in order that she might be watched, and at the same time be ready for operative interference when deemed expedient.

The disease had apparently made but little progress and there was a singular freedom from hæmorrhage even on making a most careful examination.

On Feb. 25, 1882, the patient experienced some pains like labour about 9 p.m. which recurred at intervals during the night, in spite of opiate pills, gradually increasing in frequency and severity.

On Feb. 26th she was in strong labour. Owing to some misunderstanding no notice of this was sent to either Mr. Morris or myself.

At 1.30 p.m. the cervix was found to be dilated to about the size of a five shilling piece, about one fourth of the circumference, anteriorly, being apparently healthy tissue. In place of the normal cervix, large fibroid-like nodules were discovered to be blocking up the pelvis preventing the descent of the fœtal head which was felt presenting at the brim, the occiput being anteriorly resting over the symphysis pubis.

The membranes were intact, the pains recurring at intervals of a few minutes and very strong. The maternal pulse was 102 ; the temperature 99·3° F.

The fœtus was lying in the third position, with its back directed to the mother's right side, the fœtal heart being plainly audible to the right of and a little below the umbilicus, beating 144 to the minute.

The condition of the cervix uteri being such as to preclude the possibility of the passage of the fœtal head *per vias naturales*, it was decided after a consultation to resort to the operation of cæsarian section.

At 2.30 p.m. all preliminary arrangements having been completed, the patient was placed in a somewhat semi-recumbent dorsal position and chloroform administered by Mr. Fardon, the resident medical officer.

At 2.43 Mr. Morris made an incision through the abdominal wall in the mesian line from about an inch above the symphysis pubis to midway between the umbilicus and xiphoid cartilage curving round the umbilicus on the left side.

At 2.50 an incision was made through the anterior wall of the uterus in the middle line down to the fœtal membranes, these were then divided, and the fœtus, which was lying with its back pointing forwards, its head presenting at the pelvic brim, was then extracted.

The uterus contracted, the placenta being removed almost immediately after the child.

Care was taken throughout to hold the cut edges of the uterus in contact with the edges of the abdominal parietes and thus no blood was allowed to enter the peritoneal cavity. The incision in the uterus was then sewn up with interrupted fishgut sutures, and subsequently the abdominal walls were closed in the same way, the operation being completed just within the hour.

The child, a female, weighing 6 lbs., was apparently still-born and was with difficulty resuscitated after over half-an-hour's exertion, by the aid of artificial respiration, friction, galvanism, warm bath, cold affusion to the chest and nape of neck, etc.

When once it had cried it continued to breathe freely and did perfectly well.

It was kept warm, fed on swiss milk by means of the bottle, and when seen six weeks after birth was as strong and vigorous as any ordinary child of the same age.

On Sep. 29, 1882, I visited the patient at her own home. She was able to get about and do her ordinary domestic duties. She had very little sanguineous discharge but was unable to sleep at night without resorting to opium.

On examination per vaginam the disease was found to

have made but little progress, and did not bleed at all readily.

The child was thriving and well, being brought up on cow's milk.

TWO CASES OF LABOUR COMPLICATED WITH CANCER OF THE CERVIX UTERI.

By G. E. Herman, M.B. Lond., M.R.C.P. Lond., F.R.C.S. Eng.

ASSISTANT OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL; PHYSICIAN TO THE ROYAL MATERNITY CHARITY; CONSULTING OBSTETRIC PHYSICIAN TO THE TOWER HAMLETS DISPENSARY; EXAMINER IN MIDWIFERY TO THE ROYAL COLLEGE OF SURGEONS OF ENGLAND; HONORARY SECRETARY TO THE SOCIETY.

Case 1. *Cancer of cervix uteri complicating labour; removal of diseased tissue with scissors and actual cautery; forceps delivery; vesico-vaginal fistula; phlegmasia dolens; death eighteen days after delivery* (reported by Mr. J. Alexander Williams).—E. M—, æt. 37, was admitted into the London Hospital on January 3rd, 1881. She was brought there, in labour, from Whitechapel Workhouse Infirmary, on account of the difficulty in delivery which was apprehended.

The history of her illness previous to labour is unfortunately not recorded. Labour pains were said to have begun on January 2nd, about 6 a.m., and later in the morning of that day the membranes ruptured. She was admitted into the London Hospital about 1.30 p.m. on January 3rd.

On examination the uterus was found reaching about two thirds of the distance between the umbilicus and the ensiform cartilage. Uterine contractions were recurring about every ten minutes. The os was about the size of half-a-crown. At its anterior and left part the cervix uteri was changed into a hard nodulated mass; its posterior and right part felt as if free from disease. On the anterior vaginal wall, close to the cervix, was a spot of ulceration about as big as a shilling. The vertex was presenting.

The patient did not seem much exhausted; the pulse was 90. She said she had not slept the night before admission, and therefore a dose of ℥xxx of Tr. Opii was given, after which she slept for an hour and a half, and on waking felt much refreshed.

At 8 p.m. she was anæsthetised with ether, and the cervix being exposed by a duckbill speculum and retractor, the growth was cut away with scissors as freely as was thought safe, and Paquelin's cautery was applied to the cut surface to check hæmorrhage and still further destroy the diseased tissue. By this proceeding the os uteri was enlarged until it easily admitted four fingers. The forceps was then applied, and the child delivered without much difficulty. It was in a state of suspended animation when born, but was revived by artificial respiration, and did well. Good contraction of the uterus followed the birth of the child, and the placenta was expelled in a few minutes. Slight hæmorrhage still continuing after this, a plug of ferridised cotton wool was pushed up to the cervix and left there. This was removed on the following day. The pulse after delivery was 108.

It seems to me unnecessary to describe in detail the subsequent course of the case. The main facts will be sufficient, the particular symptoms having nothing peculiar about them. The patient did well for the first two days, except that she had a troublesome cough. On January 5th the morning temperature was 105·6°, the evening 103·2°. From this time to the end the temperature continued high, averaging about 102, occasionally sinking to normal, once rising to 104·6°. The pyrexia was preceded by a rigor, and accompanied with some flatulent distension of the abdomen, slight pain in that region, and fœtor of the discharges, but no other special symptoms. She suckled the child, but the milk soon became scanty. On January 7th the patient noticed that when she coughed the urine escaped involuntarily. The discharge was ammoniacal in odour. On January 13th the parts were carefully examined, and a vesico-vaginal fistula discovered. On January 17th the

patient's appearance changed much for the worse, and she began to vomit. On the following day there was œdema of the right leg below the knee, but no pain. On January 20th the swelling had increased, and the femoral vein on that side was hard, knotted, and tender. On January 21st she died.

The autopsy showed malignant disease of the cervix spreading up into the body of the uterus. An examination of the other organs was not permitted.

Vaginal injections of carbolic acid were used throughout. The treatment beside this consisted in supporting her strength, and relieving pain and other symptoms as they arose.

In considering this case, the question arises whether, had the patient been delivered in a different way, the unfavourable complications which occurred during the lying-in period would have presented themselves. The fistula may have been caused (1) by pressure of the head. This I do not think was the case, because, at the time when interference to effect delivery was begun, the head was not low enough to press on the part at which the opening subsequently was formed. Moreover, the usual time at which sloughs from pressure separate, is about the eleventh day.* (2) From the action of the cautery, and (3) from the advance of the cancer. The fistula was situated at the spot at which ulceration was noticed before anything had been done, and therefore, although it is possible that the destructive process was aided by the cautery, I yet think that a fistulous opening would have been formed had the cautery not been applied. That phlebitis and œdema of the lower limbs is a frequent result of uterine cancer, independently of pregnancy and labour, is a fact which I need not do more that mention.

Case 2. *Labour complicated with cancer of the cervix uteri; removal of diseased tissue obstructing delivery; forceps; good recovery from childbed.*—On June 10th, 1882, I was called to Mrs. S. V. L—, a patient of the Royal Maternity Charity,

* Vide Emmet, 'Principles and Practice of Gynæcology,' 1st ed., p. 664.

and resident in Hackney. The history given was the following:—She was aged forty-five, and had had eleven children. Until two years ago she was quite well. Since that time she had suffered from loss of appetite, had been losing flesh, and had, on and off, noticed a vaginal discharge, which during the last twelve months had smelt badly. For the last four months she had suffered from "floodings." During the earlier months of her pregnancy, there was the usual amenorrhœa of that condition. Before the floodings began she had not had much pain, but after that time the pain became bad enough to keep her awake at night. There had been no bladder or rectal troubles. For five or six weeks she had suffered from labour-like pains.

The actual pains of labour were stated to have begun at 2 a.m. on June 10th, at which time the membranes ruptured. Later in the day the midwife arrived, and she, finding the condition of the cervix unnatural, sent for the assistance of Dr. Ambrose Kibbler, one of the district surgeons to the Charity. Dr. Kibbler saw the patient about 3 p.m. The os was then about the size of a florin, and for some time no expansion took place. About 6 p.m. the pains became vigorous and the os began to dilate further. The patient was about this time seen, with Dr. Kibbler, by Mr. Roland Smith, another of the Charity's district surgeons, and in the subsequent management of the case I had the advantage of the co-operation of both these gentlemen.

I saw the patient about 9 p.m. The os was then about the size of a crown-piece. Growing from the left and posterior part of the cervix was a tumour about the size of a goose's egg. The cervix all round felt thickened and rugged, excepting about an inch of its circumference on the left side, which felt healthy. The wire of an ordinary écraseur was put round the tumour, which was thus cut through and the greater part of its bulk removed, without more than trifling hæmorrhage. The hand was then introduced into the vagina, and it being found that the new growth of the cervix was soft in texture, it was broken down and pulled away with the fingers and thumb, scissors being

used to divide such bits of tissue as were too tough to be torn through. Bits of cancerous tissue forming, it was thought, in all, a bulk as large as the tumour, were thus removed without hæmorrhage of consequence. The forceps was then applied and the child delivered without difficulty. It was dead, but not decomposing. The cord was about three times its natural thickness. The placenta came away naturally, without great hæmorrhage; it presented no appreciable abnormality. The patient, so far as the lying-in was concerned, recovered well.

I saw her on November 20th, and again on December 3rd, that is, nearly six months after the labour. She was very anæmic and said she had lost four stones in weight, but, having formerly been very stout, she did not present any appearance of emaciation. She complained of pain, which for three weeks after delivery was much less than it had been previously, of offensive discharge, and of irregular hæmorrhages, but the losses of blood had been less copious since than before the confinement. She stated that she was now an out-patient at the Samaritan Hospital, under the care of Dr. Percy Boulton.

I have thought these cases worth bringing before the Society as a contribution to the history of this grave complication of labour.

The second case appears to me the more instructive of the two. It illustrates two points, which I think are important ones, in the management of this condition. First, that difficulty in delivery does not depend so much upon the extent or size of the growth as upon its consistence. Even though the greater part or the whole of the circumference of the os be diseased, yet, if the cancer be soft in texture, it will not offer much hindrance to delivery. The second point is that masses of cancer may be removed during labour without any ill consequence following. In a paper "On the Treatment of Pregnancy complicated with Cancerous Disease of the Genital Canal," published in vol. xx of the 'Transactions' of this Society, I have quoted three cases (all I could find) in which this was done. In two of them the growth was

simply cut away with scissors, no more than trifling hæmorrhage resulting, and in both of them the patient did well so far as the lying-in went. In one case, as in my first case, the cautery was used, but the result in neither was good. Much caution is needed in drawing any conclusion from three cases, but I think we may go as far as this, that to cut away cancerous disease of the cervix during labour, is not very dangerous, and if we are provided with the means of checking hæmorrhage, it may be said to be safe: and it is obvious that if this be done the obstruction to delivery will be materially diminished. I am also inclined to think, influenced largely by the second case, that, as surgeons have pointed out with reference to the removal of cancer elsewhere situated, masses of diseased tissue may often be torn away with great ease, and with less risk than attends the use of cutting instruments. I would therefore submit that, in the management of labour obstructed by cancerous disease, the first alternative to be considered should be whether it is not possible to break down and tear or cut away the masses of diseased tissue which oppose the passage of the child.

Dr. Bate had had under care a case which Dr. Palfrey had seen at the fourth month of pregnancy and had diagnosed cancer of the cervix. The os was nodulated and just beginning to split up. She went her time, and was safely delivered after a short and easy labour. Three days after she had a rigor, followed by symptoms of metritis, and afterwards purulent deposits in the joints, diphtheria, and death thirty days after delivery. Here was a case in which no operative interference was necessary, and yet the patient died from blood-poisoning, following a natural labour, in his (Dr. Bate's) opinion due to the diseased condition of the uterine tissues.

Dr. Champneys called attention to the change from the third to the second position, the fœtus lying when first observed with its back somewhat backward, and when excised, somewhat forward. This is probably the usual course in cases eventually born in the second position, and may have been due in this case to some descent of the head.

Dr. Galabin asked Dr. Edis whether the sutures were placed through the whole thickness of the uterine wall, and whether

any difficulty was found in bringing the peritoneal edges of the uterine wound into close apposition; also whether it would have been possible in this case to bring the fundus outside, and amputate it by Porro's method. He had himself succeeded in delivering through the natural passages in four cases in which cancer involved the whole circuit of the cervix, and was therefore rather more extensive than in those now recorded by Dr. Herman, but two of the mothers died from septicæmia. In only one case was there any great difficulty about the operation itself. In this, delivery by craniotomy occupied more than two hours, and a large vesico-vaginal fistula was formed soon after, but the patient survived. In the second case a living fœtus was delivered by version, the somewhat soft cancer being torn through in the process, and the patient recovered. In the third, the cervix was dilated by Barnes' bags, and the operation of craniotomy proved not very difficult, but the mother died from septicæmia. In the fourth, the cervix was slit up, and removed in portions by the galvanic écraseur. The child descended through the uterine contractions so rapidly that its scalp was much burnt, but it did well. The mother died from septicæmia, and at the autopsy only a very small remnant of the cancer, about one-eighth of an inch in depth, was found remaining.

Mr. C. E. Jennings.—Rupture of the bladder during parturition is by no means so rare an accident as one at first sight would suppose. I would ask Dr. Herman whether, in his first case, a catheter was passed prior to the application of the forceps? Not long ago I witnessed a case of cephalotripsy where rupture of the bladder occurred, and where there was little doubt that the accident was due to the neglect of this simple precaution.

Dr. Fancourt Barnes had been present at the operation by Mr. Henry Morris. In those cases where a choice of operation had to be made, regard should be had to the extent to which the cervix was involved by the cancerous growth. The operation of Cæsarian section in itself was a simple one, and afforded a chance of probable recovery to the mother and almost certain safety to the child. In some cases of cancerous disease of the cervix uteri it was necessary to resort, when delivery was effected per vias naturales, to craniotomy, and in these cases the child of course was always destroyed, and very frequently the mother succumbed as well from injury, laceration, or septicæmia. Another point was that in Cæsarean section the tissues divided were healthy and healed more readily, whereas by delivery by the vagina, diseased tissues had to be cut or torn, and a starting point for blood-poisoning created.

Dr. Edis, in reply, said the sutures in the uterus were ordinary interrupted ones of silkworm gut, the end not being turned into the vagina. The patient suffered much from after

pains, and it was a question how far these were due to the presence of stitches in the uterine wall. Porro's operation had been thought of, but the malignant disease having involved such a large extent of the cervix and having also crept down on the posterior wall of the vagina, it was not considered advisable.

Dr. Herman said that in his first case a catheter had been passed before the forceps were applied. He had not seen the second patient after delivery until six months had gone by, and therefore could not say what was the condition of the cervix uteri as to fissures formed during delivery.

Dr. Champneys suggested that the fistula may have resulted not from injury due to the cautery, but from injury inevitably done by the head to diseased tissue, the early separation of the slough rather supported this. The presence of healthy tissue at the sides of the cervix may perhaps be more important than in front, seeing that lacerations commonly occur at the sides and especially the left side. In the second case the healthy tissue was on the left, in the first case in front. He did not gather the condition of the cervix after delivery. Cases of this kind are specially interesting when related by Dr. Herman, whose excellent paper in a former volume of the 'Transactions' gives him the right to speak as an expert on the subject of labour complicated with cancer of the cervix.

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